IEEE

CCECE 2004 CCGÉI

Schedule of Events

Session Code:

Day       Monday, Tuesday, Wednesday.
Type      Oral – Morning, Oral Afternoon, Poster – afternoon.
Session Number.
Presentation Number.

Ex.  WM03.06 = Wednesday Morning Session 3 Presentation 6.

Edas paper number is shown immediatley following authors.

Volume and page in the printed proceedings is shown thus: V1-0988.
Monday, May 3

**Plenary Session 1**

TIME: 08:15 - 09:15  
ROOM: Oakes Ballroom

"Science and Engineering Research in the next 25 years - some general features".

**Dr. Tom Brzustowski,**  
President,  
Natural Sciences and Engineering,  
Research Council of Canada.
Session (Oral) MM1:  OFDM

Monday, May 03, 2004    TIME:   9:30  – 12:20

CHAIR: Dr. D. Hatzinakos and Mr. R. Pacheco, University of Toronto
Room: Canadiana

1. BER Analysis of Self-Heterodyne OFDM Transmission Scheme
Ryan Pacheco (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6621 V4-1953

2. Search for OFDM Synchronization Waveforms with Good Aperiodic Autocorrelations
Oktay Ureten (Communications Research Centre, Canada), Selcuk Tascioglu (Ankara University, Turkey), Nur Serinken (Communications Research Centre, Canada), Mumtaz Yilmaz (Ankara University, Turkey) 3772 V1-0013

Sujoy Chatterjee, (Asian Institute of Technology, Thailand), Kazi M. Ahmed (Asian Institute of Technology, Thailand), W.A.C. Fernando (Asian Institute of Technology, Thailand) 5093 V1-0153

Antonio L. Cinquino (Concordia University, Canada), Yousef R. Shayan (Concordia University, Canada) 5804 V2-0697

Break : 10:50 – 11:00

5. Decision Directed OFDM-CPM systems for Wireless Communications
Yasir Barlas (University of Western Ontario, Canada), R. K. Rao (University of Western Ontario, Canada) 5887 V2-0909

6. Peak-to-Average Power Ratio Reduction in OFDM: Optimal and Suboptimal Combination of Erasure Pattern Selection and Probabilistic Methods
Lucia Valbonesi (University of Illinois at Chicago, USA) and Rashid Ansari (University of Illinois at Chicago, USA) 6886 V4-2175

7. Channel Estimation Methods For MIMO-OFDM System: Time Domain Versus Frequency Domain
Quazi Mehbubar Rahman (Royal Military College of Canada and Queen's University) and Mostafa Hefnawi (Royal Military College of Canada) 5801 V2-0689

8. Two Novel Transform Domain Estimation Methods for OFDM System and Their Application Environment
Jia Lei (University of Tianjin, China), Cao Dazhong (Tianjin University, China), Hou Chunping (Tianjin University, China) 5443 V1-0377
Session (Oral) MM2: Mobile Networks I

Monday, May 03, 2004       TIME: 9:30 – 12:20

CHAIR: Dr. S. Pierre, Ecole Polytechnique de Montreal

Room: Ontario

1. Wireless Camera Network for Image Super-resolution
Marc Directo (McMaster University, Canada), Shahram Shirani (McMaster University, Canada), David Capson (McMaster University, Canada) 5798  V2-0681

2. Location-Based Services: Advances and Challenges
Isaac K. Adusei (University of Hannover, Germany), Kyandoghere Kyamakya (University of Hanover, Germany), Fazli Erbas (University of Hanover, Germany) 3268  V1-0001

3. Performance Considerations for Managing Users’ Mobility in Mobile Systems
Alejandro Quintero (Ecole Polytechnique de Montreal, Canada), Oscar Garcia (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) 6462  V3-1793

4. Mobility Prediction based Service Location and Delivery
N. Samaan (University of Ottawa, Canada), Ahmed Karmouch (University of Ottawa, Canada) and H. Kheddouci (Université de Bourgogne, France) 6975  V4-2307

Break: 10:50 – 11:00

5. Automatic Mobile Payment on a non-Connected Vending Machine
Seyed Bahram Zahir Azami (Hivva Technologies, Canada) and Mohammad Tanabian (Hivva Technologies, Canada) 5818  V2-0731

6. UHF DTV Band Channel Characterization for Mobile Reception
Assia Semmar (Laval University, Canada), Jean-Yves Chouinard (Laval University, Canada), Xianbin Wang (Communications Research Centre, Canada) and Yiyan Wu (Communications Research Centre, Canada) 6066  V3-1339

7. On the Role of Base Station In Fault-Tolerant Mobile Networks
Rana Ejaz Ahmed (American University of Sharjah, U.A.E), Abdul Khaliq (American University of Sharjah, U.A.E) 5604  V1-0473

8. Designing and Implementing of a Wireless Network Emulator
Zhigang Jin (Tianjin University, China), Xiuli Wu (Tianjin University, China), Yantai Shu and Zhifeng Fu (Tianjin University, China) 5335  V1-0341
Session (Oral) MM3: Optical Networks

Monday, May 03, 2004  TIME: 9:30 – 12:20 p.m

CHAIR: Dr. X. N. Fernando, Ryerson University  Room: Auditorium

1. Optimization of All-Optical Network Testbed Regarding NRZ and RZ Modulation
Hongqing Zeng (Carleton University/Communications Research Centre, Canada), Alex Vukovic (Communications Research Centre, Canada), J. Michel Savoie (Communications Research Centre, Canada) and Changcheng Huang (Carleton University, Canada) 5524  V1-0429

2. Performance of A Packet Switch with an Optical Core under Self-similar Traffic
Sareh Taebi (University of Ottawa, Canada), Sofia A. Paredes (University of Ottawa, Canada) and Trevor Hall (University of Ottawa, Canada) 5825  V2-0747

3. A Novel Approach to Joint Wavelength and Waveband Routing in Hierarchical Optical Networks
Saurav Gorai (Indian Institute of Technology, India), Arabind Dash (Indian Institute of Technology, India), Ranjan Gangopadhyay (Indian Institute of Technology, India), Piero Castoldi (Scuola Superiore Sant'Anna, Italy) 5972  V2-1101

4. A Dynamic Multi-Wavelength Simulink Model for EDFA
Stephen Pinter (Ryerson University, Canada), Jean Jiang (Ryerson University, Canada) and Xavier Fernando (Ryerson University, Canada) 6808  V4-2077

Break : 10:50 – 11:00

5. Quantifying the Effect of Extended Offsets in Optical Burst Switching Networks
Neil Barakat (University of Toronto, Canada) and Edward H. Sargent (University of Toronto, Canada) 6998  V4-2331

6. A Study on a Residential Gateway for an Ethernet Based Residential Multiservices Network
Larry Lindsay (University of Guelph, Canada) and Shaowen Song (Wilfrid Laurier University, Canada) 5727  V2-0617

7. Multicast Traffic Grooming in WDM Networks
Ahmad Khalil (CUNY, USA), Chadi Assi (Concordia University, Canada), Antonis Hadjiantonis (CUNY, New York, USA), Georgios Ellinas (CUNY, USA), Nasser Abbellatif and M. A. Ali (CUNY, USA) 5836  V2-0785

8. 2-D CMOS Based Image Sensor System for Fluorescent Detection
Yasaman Ardeshirpour (McMaster University, Canada), M. Jamal Deen (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 6109  V3-1441
Final Program

Session (Oral) MM4: VLSI Design
Monday, May 03, 2004 TIME: 9:30 – 12:20

CHAIR: Dr. M. Ahmadi, University of Windsor
Room: Cree

1. Design of a Low-Power D Flip-Flop for Test-Per-Scan Circuits
Nitin Parimi (University of Alberta, Canada), Xiaoling Sun (University of Alberta, Canada) 5833 V2-0777

2. An Overview of Reconfigurable VLSI Based Signal Processing Building Blocks for Next Generation Wireless Devices
Peter Noel (Carleton University, Canada), Ramin Shariat-Yazdi (Carleton University, Canada), Tad Kwasniewski (Carleton University, Canada) 6012 V2-1207

3. Nanotechnology Based Energy Generation from Thermal Radiation
Quentin Diduck (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6168 V3-1597

4. Deep-Submicron CMOS Design of High-Performance Low-Power Flash/Folding Analog-To-Digital Converters
John Liobe (University of Rochester, USA), Martin Margala (University of Rochester, USA) 6187 V3-1629

Break: 10:50 – 11:00

5. New Design of a MAP/BCJR Decoder
Leila Sabeti (University of Windsor, Canada), Majid Ahmadi (University of Windsor, Canada), Kemal Tepe (University of Windsor, Canada) 6415 V3-1773

6. Review of Charge-Sharing Logic Circuits
Muhammad Arsalan (Carleton University, Canada), Maitham Shams (Carleton University, Canada) 6596 V4-1919

7. Performance Evaluation of Three Memory Sense Amplifiers with Input Offset Cancellation
Haiying Helen Qu (University of Alberta, Canada), Bruce F. Cockburn (University of Alberta, Canada) 6598 V4-1927

8. Implementing a Digitally Synthesized Adaptive Pre-emphasis Algorithm for use in a High-Speed Backplane Interconnection
Lei Lin (Carleton University, Canada), Peter Noel (Carleton University, Canada), Tad Kwasniewski (Carleton University, Canada) 6017 V3-1221
Session (Oral) MM5: Image and Video Processing

Monday, May 03, 2004  TIME:  9:30 – 12:20

CHAIR: Dr. R. Lukac, University of Toronto  ROOM: Hennipen North

1. A New Digital Camera Zooming Solution
Rastislav Lukac (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 5860  V2-0845

2. Density Estimation Embedded B-Spline Smoother for Signal Denoising and Edge-Preserving
Ruixiang Song (University of Manitoba, Canada) 5285  V1-0299

3. Local Correlation Based CFA Interpolation
Marko Aleksic (University of Toronto, Canada), Rastislav Lukac (University of Toronto, Canada) 5838  V2-0793

4. Joint Rate Distortion Optimal Shape and Texture Coding
Saurav Bandyopadhyay (University at Buffalo, USA), Lisimachos Kondi (University at Buffalo, USA) 5859  V2-0841

   Break : 10:50 – 11:00

5. Binary Shape Mask Representation for Zerotree-Based Visual Object Coding
Karl Martin (University of Toronto, Canada), Rastislav Lukac (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 6898  V4-2197

Reginald Rowlandson (University of Guelph, Canada), Robert D. Dony (University of Guelph, Canada) 6042  V3-1277

7. Shape Constrained Discrete Dynamic Contours for Noisy Object Segmentation
Azad Shademan (Ryerson University, Canada), Farrokh Janabi-Sharifi (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada) 6132  V3-1507

8. Modeling Change of Haplotype Distributions in Random Mating Populations Using Random Sets
Amir Raji-Kermany (University of Ottawa, Canada), Charalambos D. Charalambous (University of Ottawa, Canada), Donal Hickey (University of Ottawa, Canada) 6842  V4-2107
Session (Oral) MM6: Power Systems

Monday, May 03, 2004     TIME: 9:30 – 12:30

CHAIR: Dr. R. Billinton, University of Saskatchewan

Room: Oneida

Ashikur Bhuiya (Alberta Electric System Operator, Canada), Nurul Chowdhury (University of Saskatchewan, Canada) and M. Huq (University of Saskatchewan, Canada) 6602 V4-1937

2. Grounding of Standby and Emergency Power Systems
Gelu F. Gîrda (IEEE Member) and Ajit Bapat (IEEE Member) 5247 V1-0261

3. Identification non linéaire des paramètres du modèle ABC/abc du moteur à induction
Nadia Elkhattabi (Université du Québec à Trois-Rivières, Canada), Anatole Sévigny (Université du Québec à Trois-Rivières, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada), André Charette (Laboratoire des technologies de l'énergie de l'IREQ - Hydro-Québec, Canada) 6729 V4-2047

4. Power System Protection and Control Integration over Ethernet-based Communication Channels
T.S. Sidhu (University of Western Ontario, Canada), Elemer Demeter (SaskPower, Canada), Sherif O. Faried (University of Saskatchewan, Canada) 5221 V1-0225

Break: 10:50 – 11:00

5. Modeling and Analysis of Active Islanding Detection Methods for Photovoltaic Power Conditioning System
Youngseok Jung (Korea Institute of Energy Research, Korea), Junghun So (Korea Institute of Energy Research, Korea), Gwonjong Yu (Korea Institute of Energy Research, Korea), Jaeho Choi (Chungbuk National University,Korea) 5910 V2-0979

6. On line Measurement and Improvement of Working Parameters of a Diesel Engine - Synchronous Alternator Group
Gelu F. Gîrda and Abdemusa Moosajee (Bombardier Transportation Inc.) 5244 V1-0257

7. Identifying Transmission Deficiencies in Composite Electric Power Systems
Roy Billinton and Yifeng Li (University of Saskatchewan, Canada) 9002 V4-2409

8. Defining Power Factor for Intermittent Duty Load Conditions
Vishal Verma (G.B. Pant University of Ag. & Tech. India), X. Umesh (G.B. Pant University of Ag. & Tech., India), Bhim Singh (Indian Institute of Technology- Delhi, India), Ambrish Chandra (ETS-Quebec, Canada) 6680 V4-1997
Session (Oral) MM7: Security Applications

Monday, May 03, 2004  TIME: 9:30 – 12:30

CHAIR: Dr. K. Plataniotis, University of Toronto
Room: Haida

1. Protecting Hosts Against Attacks in IMAGO System
X. Zhujun (University of Guelph, Canada) Xu Li and Xining Li (University of Guelph, Canada) 5379  V1-0361

2. Cryptographic Key Management Solution in a Role Hierarchy
Cungang Yang (Ryerson University, Canada), Celia Li (Ryerson University, Canada), Richard Cheung (Ryerson University, Canada) 5689  V1-0575

3. Implementation of a Caching Mechanism in a Pervasive Environment
Vissvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore), Naveen Ramamurthy (University of Texas at Arlington, USA), Meraj Khan (University of Texas at Arlington, USA), Savitha Ramesh (University of Texas at Arlington, USA) 5138  V1-0169

4. A stream Cipher Algorithm Based on Conventional Encryption Techniques
Ya-Ping Zhang (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Xu Zhang (Tianjin University, China) 5748  V2-0649

Break: 10:50 – 11:00

5. Security Audit: A Case Study
Edward C. Lo (University College of the Fraser Valley, Canada) and Mike Marchand (University College of the Fraser Valley, Canada) 5177  V1-0193

6. A Differential Attack on the CIKS-1 Block Cipher
Brian J. Kidney (Memorial University of Newfoundland, Canada), Howard H. Heys (Memorial University of Newfoundland, Canada), Theodore S. Norvell (Memorial University of Newfoundland, Canada) 5978  V2-1119

7. Improving Intrusion Detection Systems Through Heuristic Evaluation
Andrew T. Zhou (Dalhousie University, Canada), James Blustein (Dalhousie University, Canada) and Nur Zincir-Heywood (Dalhousie University, Canada) 6214  V3-1641

8. Honeypot and Scan Detection in Intrusion Detection System
Chunmei Yin (Tianjin University, China), Mingchu Li (Tianjin University, China), Jianbo Ma (Tianjin University, China) and Jizhou Sun (Tianjin University, China) 5974  V2-1107

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1. Détermination du niveau de clinker par le traitement de signaux radars  
Louis-Philippe Gill (Université Laval, Canada), Dominic Grenier and Patrick Luneau (Université Laval, Canada) 4229  V1-003

2. A Stroke Based Algorithm For Dynamic Signature Recognition  
Tong Qu (University of Ottawa Canada), Abdulmotaleb El-Saddik (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5591  V1-0461

3. Dense Disparity Estimation Based on the Continuous Wavelet Transform  
Xiaodong Huang (University of Ottawa, Canada) and Eric Dubois (University of Ottawa, Canada) 5592  V1-0465

4. Simulation of Oscillometric Waveforms  
Sukru Colak and Can Isik (Syracuse University, USA) 5651  V1-0497

Break : 10:50 – 11:00

5. On the Correlation of the DWT Coefficients  
Jeong-Jin Lee (University of Waterloo, Canada) and George Freeman (University of Waterloo, Canada) 5963  V2-1073

6. Sub-dictionary Selection using Local Discriminant Bases Algorithm for Signal Classification  
Karthikeyan Umapathy (University of Western Ontario, Canada), Sridhar Krishnan (Ryerson University, Canada), Anindya Das (University of Western Ontario, Canada) 6684  V4-2001

7. An Improved Radix-16 FFT Algorithm  
Saad Bouguezel (Concordia University, Canada), M. Omair Ahmad (Concordia University, Canada) and M. N. S. Swamy (Concordia University, Canada) 5969  V2-1089

8. A Simulated Annealing Algorithm to support the Sensor Placement for Target Location  
Pei-Ling Chiu (National Taiwan University, Taiwan) Frank Yeong-Sung Lin (National Taiwan University, Taiwan) 5865  V2-0867

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Session (Oral) MM9: Image Processing I

Monday, May 03, 2004
TIME: 9:30 – 12:20

CHAIR: Dr. S. Shirani, McMaster University
Room: Chippawa

1. ISAR Imaging with Array Antenna Receiver using AUTOCLEAN Algorithm
   Hugues Dombrowski (Laval University, Canada), Dominic Grenier and Sebastien Roy (Laval University, Canada) 5224  V1-0233

2. Unequal Error Protected ROI Image Transmission Based on Vector Quantization
   Abbas Ebrahimi-Moghadam (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 5698  V1-0591

3. Combining Regularization Frameworks for Image Deblurring: Optimization of Combined Hyper-Parameters
   Richard Youmaran (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5816  V2-0723

   Yoshihiro Kato (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin University, Japan) 5922  V2-0999

Break : 10:50 – 11:00

5. Evaluation of Three Dimensionality Reduction Techniques for Document Classification
   Xiao Luo and A. Nur Zincir-Heywood (Dalhousie University, Canada) 5164  V1-0181

6. Image Compression with Optimal Wavelet
   Guangyi Y. Chen (Concordia University, Canada), T. D. Bui (Concordia University, Canada) and A. Krzyzak (Concordia University, Canada) 5194  V1-0209

7. Subsampling-Based Image Compression Prediction for Memory-Limited Applications
   Milivoje Aleksic (ATI Technologies, Canada) and Ioannis Kouramanis (ATI Technologies, Canada) 5685  V1-0571

8. Extraction Algorithm of Principal Lines and Rotation Method for Non-contacting Fingerprint Authentication
   Keita Torii (Kanto Gakuin University, Japan) and Noriyoshi Okamoto (Kanto Gakuin University, Japan) 5890  V2-0923
Session (Oral) MM10: Software Engineering I
Monday, May 03, 2004
TIME: 9:30 – 12:20

CHAIR: Dr. Y. Wang, University of Calgary
Room: Tuscarora

1. An Extension of SEMEST: The Online Software Engineering Measurement Tool
Shuangshuang Zhang and Yingxu Wang (University of Calgary, Canada) 6135 V3-1519

2. Incorporating AContract-Based Test Facility to the GUI Framework
Ting Liu and Paul Dasiewicz (University of Waterloo, Canada) 5504 V1-0405

3. Automating the Transition from Stakeholders' Requests to Use Cases in OOAD
Kalaivani Subramaniam (University of Calgary, Canada), Behrouz Homayoun Far and Armin Eberlein (University of Calgary, Canada) 5659 V1-0515

Li Jiang (University of Calgary, Canada), Armin Eberlein (American University of Sharjah, UAE) and Behrouz Homayoun Far (University of Calgary, Canada) 5312 V1-0323

Break: 10:50 – 11:00

5. Exploring Java Code Generation based on Formal Specifications in RTPA
Cyprian F. Ngolah and Yingxu Wang (University of Calgary, Canada) 6139 V3-1533

6. Decision Trees of Cryptographic Boolean Functions
Amr M. Youssef (Queen's University, Canada) and Stafford E. Tavares (Queen's University Canada) 5492 V1-0401

7. Test Selections and Coverages
Goga Nicolae (Technical University Eindhoven, The Netherlands) and Florica Moldoveanu (Politehnica University, Romania) 5808 V2-0707

8. Maintenance Issues in Outsourced Software Components
Rana Ejaz Ahmed (American University of Sharjah, United Arab Emirates) 5024 V1-0129
Monday, May 3

*Luncheon Speaker*

TIME: 12:30 - 14:15  
ROOM: Oakes Ballroom

"Packet Voice Technology"

Jeff Seifert  
Cisco Systems Distinguished Engineer

Sponsored by Cisco Systems
Session (Oral) MA1: MIMO Systems
Monday, May 03, 2004  TIME: 14:10 – 17:30
CHAIR:  Dr. S. Loyka,  
University of Ottawa  Room:  Canadiana

1. Effect of Oversimplifying the Simulated Indoor Propagation on the Deterministic MIMO Capacity
Michel Elmaggar (University of Waterloo, Canada), Safieddin Safavi-Naeini and Sujeet K. Chaudhuri (University of Waterloo, Canada) 5215  V1-0221

2. Performance Study of MIMO Systems in a Clustered Multipath Channel
Guangze Zhao (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5588  V1-0453

3. Performance Analysis of Multiuser Diversity in MIMO Channels
Ahmed Iyanda Sulyman (Queen’s University, Canada) and Mohamed Ibnkahla (Queen’s University, Canada) 6010  V2-1199

4. Analysis of MIMO Capacity in Waveguide Environments Using Practical Antenna Structures for Selective Mode Excitation
Gwenael Poitau (Ecole de Technologie Superieure, Canada) and Ammar Kouki (Ecole de Technologie Superieure, Canada) 5340  V1-0349

5. Impact of Multipath Angular Distribution on Performance of MIMO Systems
Leo Chan (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5862  V2-0853

Break: 15:50 – 16:10

6. Statistical Analysis of a Measured MIMO Channel
Giyora Levin (University of Ottawa, Canada) and Sergey Loyka (University of Ottawa, Canada) 5867  V2-0875

7. Investigation of MIMO Channel Correlation and Capacity Based on Partial Embedded RF Measurements
Ali Jemmali (École de technologie supérieur, Canada) and Ammar Kouki (École de technologie supérieur, Canada) 5663  V1-0531

8. Performance Evaluation of MIMO-CFDM Systems in Correlated Fading Channels
Jaeho Chung and Jaehwa Kim (Samsung Electronics Co, Ltd.), Taekon Kim and Jaemoon Jo (Samsung Electronics Co, Ltd.) 5589  V1-0457

9. An Improved Water-filling Algorithm for Mobile MIMO Communication Systems over Time-Varying Fading Channels
Ligang Ren (Beijing University of Posts and Telecommunications, China), Zhijie Yan (Beijing University of Posts and Telecommunications, China), Mei Song (Beijing University of Posts and Telecommunications, China) and Junde Song (Beijing University of Posts and Telecommunications, China) 5735  V2-0629

10. Improved MIMO-DFE Detection Algorithm For V-BLAST Over Frequency-Selective Channels
Gan Zheng (Tianjin University, P.R. China), Dazhong Cao and Chunping Hou (Tianjin University, P.R. China) 5610  V1-0477
1. Analysis of Partially Coherent PSK Systems in Wireless Channels with Equal-Gain Combining
Mahmoud A. Smadi (University of Texas at Arlington, USA) and Vasant K. Prabhu
(University of Texas at Arlington, USA) 4839  V1-0099

2. Power Savings in Channel Equalizers using Run-Time Reconfiguration
Alireza Shoa (McMaster University, Canada), Shahram Shirani (McMaster University,
Canada) 5871  V2-0879

3. Signal Distortion Caused by Tree Foliage in a 2.5 GHz Channel
Eric R. Pelet (University of Saskatchewan, Canada), Eric Salt (University of
Saskatchewan, Canada) and Garth Wells (University of Saskatchewan, Canada) 6111  V3-1449

4. Performance of MRC over Nakagami-m Fading Channels with Arbitrary Branch
Correlation, Non-identical and Non-integral Fading Orders
Tuan A. Tran and Abu B. Sesay (University of Calgary, Canada) 6160  V3-1581

5. The Impact of a Two-Path Radio Environment on Bit Error Rate in UMTS Networks
Abdul H. Ali and John G. Gardiner (University of Bradford, UK) 5188 V1-0205

Break : 15:50 – 16:10

6. WMPLS Throughput Efficiency in Multipath Rayleigh Fading Environments
Najah Abu Ali (Queen's University, Canada), Hamidreza Saligheh Rad (Queens
University, Canada), Saeed Gazor (Queens University, Canada) and Hussein Mouftah
(University of Ottawa, Canada) 6399  V3-1749

7. Cyclostationary-Based Diversity Combining for Blind Channel Equalization
using Multiple Receive Antennas
Mohan Baro (Dalhousie University, Canada) and Jacek Ilow (Dalhousie University,
Canada) 7349  V4-2375

8. Capacity of Gaussian Channels with Noise Uncertainty
Stojan Z. Denic and Charalambos D. Charalambous (University of Ottawa, Canada),
Seddik M. Djouadi (University Tennessee, USA) 5516 V1-0421

9. Reconfigurable Defected Ground Microstrip Phase Shifter Using Micromachined
Membranes
Tina Shoa (University of Manitoba, Canada) and Cyrus Shafai (The University of
Manitoba, Canada) 6021  V3-1233

10. Blind Hammerstein Detection Feedback Equalizer (BHDFE) as a New Blind
Equalizer
Yasin Miar and AmirReza Momen (Iran Telecommunication Research Center, Iran),
Hamidreza AminDavar and Hossein Samimi (Iran Telecommunication Research Center,
Iran) 5681  V1-0567

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1. Composite Metric For Quality of Service Routing in OLSR
Nauman Aslam (Dalhousie University, Canada), William Phillips (Dalhousie University, Canada) and William Robertson (Dalhousie University, Canada) 5829 V2-0759

2. On the Implementation of Weighted Fair Queuing in High Speed Networks
Jordan Lu, Rob Robotham (Alcatel Canada Inc., Canada) 5847 V2-0809

3. A QoS Scheme to address Communication Latency Issues for Critical Network Flows in Best-Effort Networks using Mobile Agents
Visvasuresh Victor Govindaswamy (University of Texas at Arlington, USA), Gergely Zaruba (University of Texas at Arlington, USA), G. Balasekaran (Nanyang Technological University, Singapore) 5879 V2-0891

4. Implementing an IPv6 QoS management scheme using Flow Label & Class of Service Fields
El-Bahlul Fgee (Dalhousie University, Canada), Jason D. Kenney (Dalhousie University, Canada), William J. Phillips (Dalhousie University, Canada), William Robertson (Dalhousie University, Canada) and Shyamala Sivakumar (Saint Mary's University, Canada) 5951 V2-1049

5. Distributed QoS-Constrained Multicast Algorithms
Ayse Karaman (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6124 V3-1491

Break: 15:50 – 16:10

6. Extending the Concept of Effective Bandwidths to Diffserv Networks
Houjin Li (Carleton University, Canada), Changcheng Huang (Carleton University, Canada), Michael Devetsikiotis (North Carolina State University, USA) and Gerard Damm (Alcatel, Canada) 6262 V3-1669

Hesham Tolba (INRS-EMT, University de Quebec, Canada), Zili Li and Douglas O'Shaughnessy (INRS-EMT, University de Quebec, Canada) 3710 V1-0009

8. DiffServ QoS Performance Evaluation of Multimedia Telephony
Racha Ben Ali (Ecole Polytechnique de Montreal, Canada), Samuel Pierre (Ecole Polytechnique de Montreal, Canada) and Yves Lemieux (Ericsson Research Canada) 6849 V4-2115

9. Qos Multicast Routing Based On a Heuristic Genetic Algorithm
Mehdi Karabi (Iran University of Science & Technology, Iran), Mahmoud Fathy (Iran University of Science & Technology, Iran) and Mehdi Dehghan (Amirkabir University of Technology, Iran) 6355 V3-1727

10. End-to-end QOS implement by Diffserv and MPLS
Hongyun Man (Tianjin University, China), Linying Xu (Tianjin University, China), Zijian Li (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5743 V2-0641
Session (Oral) MA4: High Speed Circuits
Monday, May 03, 2004  TIME: 14:10 – 17:30
CHAIR: Dr. C. Saavedra, Queen’s University  Room: Haida

1. Low Voltage SAW Oscillator
Tarek Sadek (McMaster University, Canada) and Peter M. Smith (McMaster University, Canada) 4954  V1-0117

2. A Fully Differential High-Speed Double-Edge Triggered Flip-Flop (DETFF)
Padram Sameni and Shahriar Mirabbasi (University of British Columbia, Canada) 6113  V3-1459

3. An Overview of High-Speed Serial I/O Trends, Techniques and Standards
Farhad Zarkeshvari (Carleton University, Canada), Peter Noel (Carleton University, Canada), Sergei Uhanov (Carleton University, Canada) and Tad Kwasniewski (Carleton University, Canada) 6016  V2-1215

4. A 100MHz-1GHz On-Chip-Programmable Phase-Locked Loop
Haleh Vahedi (University of Ryerson, Canada), Ayal Shoval (IEEE Member) and Kaamran Raahemifar (Ryerson University, Canada) 6169  V3-1601

5. A Study and Comparison of Full Adder Cells Based on the Standard Static CMOS Logic
Amir Ali Khatibzadeh (Ryerson University, Canada) and Kaamran Raahemifar (Ryerson University, Canada) 6858  V4-2139

Break : 15:50 – 16:10

6. A New CMOS Current-Mode Multiplexer for 10GB/S Serial Links
Jean Jiang (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6261  V3-1665

7. A 10-Gb/s CMOS Sample-and-Hold Phase Detector Using Dual Substrate Technique
Zoe Wai Ying Hui (Carleton University, Canada) and Tad A. Kwasniewski (Carleton University, Canada) 6410  V3-1761

8. A Voltage-Variable Time Delay Element for Clock Waveforms
Yang Zhang and Carlos Saavedra (Queen’s University, Canada) 5669  V1-0551

9. A Linear Phase Distributed Amplifier for Wide Band Optical Transceiver using Transversal Filter Concept
Mahmoud Mohammad-Taheri (University of Tehran, Iran) and Mohammed I. Elmasry (University of Waterloo, Canada) 5196  V1-0213

10. Full-integrated OTA Highpass Filter Design Based on Jacobi-Method and Similar Diagonal Matrix
Wang Shuyan (Tianjin University, China), Teng Jianfu (Tianjin University, China) and Hou Chunping (Tianjin University, China) 5236  V1-0249
Session (Oral) MA5: Circuits and Applications
Monday, May 03, 2004
TIME: 14:10 – 17:30
CHAIR: Dr. F. Yuan, Ryerson University
Room: Cree

1. Amplitude-Phase-Locked-Loop design using MWL Criterion
Reza Rashidi Far (Queen's University, Canada) and Saeed Gazor (Queen's University, Canada) 6411

Mohamad El-Hage (Ryerson University, Canada) and Fei Yuan (Ryerson University, Canada) 6458

3. On the Design of Low Power MCML based Ring Oscillators
Ayman H. Ismail (University of Waterloo, Canada), M. Sharifkhani (University of Waterloo, Canada) and Mohamed I. Elmasry (University of Waterloo, Canada) 7481

4. A 0.18µm CMOS Channel Select Filter using Q-enhancement Technique
Jiandong Ge and Anh Dinh (University of Saskatchewan, Canada) 6859

5. High-Speed Signal Compensation on Printed Circuit Boards
Bernard E. Boos (University of Saskatchewan, Canada), David E. Dodds (University of Saskatchewan, Canada) and Ron J. Bolton (University of Saskatchewan, Canada) 6890

Break: 15:50 – 16:10

6. CMOS Imager Design for Fast Centroid Readout
Christopher Thomas (York University, Canada), Richard Hornsey (York University, Canada), Kevin Yip (York University, Canada), Mayes Mullins (Mayes Mullins Enterprises Ltd. Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6980

7. Automatic Fingerprint Recognition Algorithm
Jason Zalev (Ryerson University, Canada) and Reza Sedaghat (Ryerson University, Canada) 6958

8. Power Sensitivity of Low-Voltage CMOS Current-Mode Circuits
Fei Yuan (Ryerson University, Canada) 6375

9. High Precision Target Tracking with a Compound-Eye Image Sensor
Rubakumar Krishnasamy (York University, Canada), Winnie Wong (York University, Canada), Edward Shen (York University, Canada), Srdjan Pepic (York University, Canada), Richard Hornsey (York University, Canada) and Paul J. Thomas (Topaz Technology Inc., Canada) 6981

10. An Integrated Low-Voltage SLIC/Codec for Short Loop Applications
M. Sharifkhani (University of Waterloo, Canada), Behzad Sheikholeslami (University of Tehran, Iran) and Omid Shoaei (University of Tehran, Iran) 7480
Session (Oral) MA6: Signal Processing Algorithms and Architectures II
Monday, May 03
TIME: 14:10 – 17:30
CHAIR: Dr. W. Kinsner, University of Manitoba
Room: Hennipen South

1. Modeling Multifractal Object Boundaries using Iterated Function System
Sharjeel Siddiqui (University of Manitoba, Canada), Abdelhakim El-Boustani(University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6106 V3-1431

2. Reconfigurable and Efficient FFT/IFFT Architecture
Marie-Eve Grandmaison (École de technologie supérieure), Canada, Jean Belzile (École de Technologie Supérieure, Canada), Claude Thibeault (École de technologie supérieure, Canada) and Francois Gagnon (École de Technologie Supérieure, Canada) 5977 V2-1115

3. An Efficient FFT Algorithm Based on the Radix-2/4 DIF Approach for Computing 3-D DFT
Saad Bouguezel (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada), M.N.S. Swamy (Concordia University, Canada) 5981 V2-1131

4. Evaluation of Image Corner Detectors for Hardware Implementation
Wenxin Wang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6046 V3-1285

5. A Study of Outliers for robust Independent Component Analysis
Neil Gadhok (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6098 V3-1421

Break : 15:50 – 16:10

6. Mammographic Information Analysis through Association-Rule Mining
Xiaozheng Wang (University of Calgary, Canada), Michael R. Smith (University of Calgary, Canada) and Rangaraj M. Rangayyan (University of Calgary, Canada) 6126 V3-1495

7. Extraction des caractéristiques pour la reconnaissance de mots isolés par la méthode des paquets ondelettes
Samir Hakim Abbou (University of Quebec, Canada), Marcel Gabrea (University of Quebec, Canada) and Christian S. Gargour (University of Quebec, Canada) 5661 V1-0523

8. Goertzel Implementations of the Forward and Inverse Modified Discrete Cosine Transform
Trevor W. Fox (Stragitek Corp.) and Alex Carriera (Stragitek Corp.) 7303 V4-2371

9. Multifractal Spectra of lightning Strike Maps using Entropy and wavelet Analyses
Aram Faghfouri (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada), David Swatek (Manitoba Hydro, Canada) 6108 V3-1437

10. Agrégation des propriétés physico-chimiques des acides aminés
Jean-Luc Falcone (University of Geneva) and Paul Albuquerque (University of Geneva) 6559 V4-1881
Session (Oral) MA7: Multimedia Signal Processing

Monday, May 03, 2004  TIME: 14:10 – 17:30

CHAIR: Dr. L. Kondi, State University of New York
Room: Hennipen North

1. A MPEG-4 XMT Algorithm for Scene Structure Authentication and Content Location
Ziad Sakr and Nicolas D. Georganas (University of Ottawa, Canada) 5830  V2-0763

2. RD Optimized, Adaptive, Error-Resilient Transmission of MPEG-4 Coded Video
Scott Bezan and Shahram Shirani (McMaster University, Canada) 5831  V2-0769

3. A system for the identification of multi-page web documents
J. Sweet, (Xerox Corporation, USA), S. Harrington (Xerox Corporation, USA), R. Price Jones (Rochester Institute of Technology, USA), A. Savakis (Rochester Institute of Technology, USA), F. Naveda (Rochester Institute of Technology, USA) and P. Roetling (Xerox Corporation, USA) 5878  V2-0887

4. An Ultra Low-Power Chopper Stabilized Front-End for Multichannel Cortical Signals Recording
Benoit Gosselin (École Polytechnique de Montréal, Canada), Virginie Simard (École Polytechnique de Montréal, Canada) and Mohamad Sawan (École Polytechnique de Montréal, Canada) 6954  V4-2259

5. Combining H.264 and MPEG2 for Multi-resolution Video Applications
D. Storey and P. Nasiopoulos, (University of British Columbia, Canada) 9003  V4-2415

Break : 15:50 – 16:10

6. Flux guiding in an aluminum honeycomb lattice observed through magnetic resonance imaging
A. E. Marble (University of New Brunswick, Canada), B. G. Colpitts (University of New Brunswick, Canada), B. J. Balcom (University of New Brunswick, Canada) 6547  V4-1865

7. Demosaicked Image Postprocessing Framework
Rastislav Lukac (University of Toronto, Canada), Karl Martin (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) 5864  V2-0863

8. Traitement Numerique de Donnees Thermiques par Thermographie de Phase Pulsee Quantitative Pour L’Evaluation Non-Destructive des Matériaux
Clemente Ibarra-Castanedo and Xavier Maldague (Université Laval, Canada), 6404  V3-1757

Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5280  V1-0285

10. A Spatial Domain Error Concealment Algorithm with Texture Recovery for MPEG-2
Jihua Cao (Tianjin University, China), Fengting Li (Tsinghua University, China) and Jichang Guo (Tianjin University, China) 5249  V1-0265
Session (Oral) MA8: Software Engineering II

Monday, May 03, 2004               TIME:  14:10 – 17:30

CHAIR:  S. Lowell, Bell Canada        Room: Tuscarora

1. A Novel Type Checker for Software System Specifications in RTPA
   Xinming Tan (University of Calgary, Canada), Yingxu Wang and Cyprian F. Ngolah (University of Calgary, Canada) 6144  V3-1549

2. The Implementation of Role Specification Mechanisms
   Haibin Zhu (Nipissing University, Canada) and Pierre Seguin (Nipissing University, Canada) 6062  V3-1329

3. Development of an Intelligent System for Architecture Design and Analysis
   Jingqiu Shao and Behrouz H. Far (University of Calgary, Canada) 5665  V1-0539

4. A Request Scheduling Algorithm to Support Flexible Resource Reservations in Advance
   P. L. Chiu and Kuang Wu (Institute of Technology, Taiwan), Y. T. Chen (National Taiwan University of Science and Technology, Taiwan), K. H. Lee (Ming Chuan University, Taiwan), Kai-Hui Lee (University of Ming-Chuan, Taiwan) 6640  V4-1971

5. An Intelligent Project Lifecycle Data Mart-based Decision Support System
   Nora Houari (University of Calgary, Canada) and Behrouz Homayoun Far (University of Calgary, Canada) 5817  V2-0727

Break: 15:50 – 16:10

6. An Examination of Mobile Agents System Evolution in the Course-Scheduling Problem
   Yan Yang (University of Regina), Raman Paranjape (University of Regina) and Luigi Benedicenti (University of Regina) 5782  V2-0657

7. Feelings Based Computer Music
   Maria Goga (School of Music, Romania) and Nicolae Goga (Technical University Eindhoven, The Netherlands) 5796  V2-0673

8. Extreme Programming in Reducing the Rework of Requirement Change
   Xu Bin (Zhejiang University, China), Yang Xiaohu and He Zhijun (Zhejiang University, China), Srinivasa R. Maddineni (SSGM/Securities Trading IT, USA) 6156  V3-1567

9. Fractal Agent Modeling In Building Some Software System
   Wenming Song (Tianjin University, China), Zhiyong Feng (Tianjin University, China) and Wei Jiang (Tianjin University, China) 5337  V1-0345

10. Intrusion Detection Using Fuzzy Window Markov Model
    Zhoujun Xu (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Wenjie Li (Tianjin University, China) 5745  V2-0645
Session (Oral) MA9: Power Systems and Quality

Monday, May 03, 2004  TIME: 14:10 – 17:30

CHAIR: Dr. V. Sood, Concordia University  Room: Oneida

1. Design and Characterization of Variable Attenuators and Phase Shifters with Linearized Bias Control Voltages
Mohsen Mtimat (École de technologie Supérieure, Canada) and Ammar Kouki (École de Technologie Supérieure, Canada) 5968  V2-1085

2. Interaction of Market Power and Financial Transmission Rights in Power Networks
Guillermo Bautista (Univeristy of Waterloo, Canada), Victor H. Quintana (University of Waterloo, Canada) and Jose A. Aguado (University of Malaga, Spain) 5958  V2-1067

3. Including Kyoto in Electrical Engineering Curriculum
Mohamed Benhaddadi (École Polytechnique de Montréal, Canada) and Guy Olivier (École Polytechnique de Montréal, Canada) 5991  V2-1147

4. Classification of Transients in Power Systems using Multifractal Analysis
Leila Safavian (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada) and Hilmi Turanli (Manitoba Hydro, Canada) 6110  V3-1445

5. Harmonic Mitigation, Power Factor Correction and Energy Saving with Proper Transformer and Phase Shifting Techniques
Jean-Guy Boudrias (Hammond Power Solution, Canada) 5031  V1-013

Break : 15:50 – 16:10

Éloi Ngandui (Université du Québec à Trois-Rivières, Canada) and Dalil Paraiso (Université du Québec à Trois-Rivières, Canada) 6251  V3-1659

7. Static Transfer Switch (SWS) Model in EMTPWorks RV
Chunhong He and Feng Li (Concordia Unviersity, Canada), V. K. Sood (Concordia University, Canada) 4953  V1-0111

8. Wind Power in Power Generation Planning
Rajesh Karki (University of Saskatchewan, Canada) 6133  V3-1511

Renjun Zhou (Huazhong University of Science and Technology, China), Hui Zhou (Wuhan University, China) and Xianzhong Duan (Huazhong University of Science and Technology, China) 5964  V2-1077

S.H. Hosseini and M. Kheradmandi (Sharif University of Technology, Iran) 6177  V3-1625
Session (Oral) MA10: Special Session on Optical Wireless Access Networks
Monday, May 03, 2004  TIME: 14:10 – 17:30

CHAIR: Dr. X. N. Fernando, Ryerson University

1. Integrated Optical/Wireless Networking
Shafiq Hashmi and Hussein Mouftah (University of Ottawa, Canada) 6817  V4-2095

2. Transparent Fiber -Optic System to Extend Digital Subscriber Line Service
David D. Dodds (University of Saskatchewan, Canada), Oliver Cruder (Critical Telecom Inc., Canada) and Mark Labbe (Critical Telecom Inc., Canada) 6894  V4-2189

3. Characteristics of Directly Modulated ROF Link for Wireless Access
Xavier N. Fernando (Ryerson University, Canada) and Abu B. Sesay (University of Calgary, Canada) 6880  V4-2167

4. Performance of Clipped OFDM Signal in Fiber
Debashish Chanda (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) and Bob Davies (University of Calgary, Canada) 7573  V4-2401

5. A CMOS Analogue Predistortion Circuit for Wideband Optical Fibre Links
Fu-Chuan Lin and David M. Holburn (University of Cambridge, UK), Vinod A. Lalithambika and Robert J. Mears (University of Cambridge, UK), Chak H. Hum and Stuart D. Walker (University of Essex, UK) 5228  V1-0245

6. Performance of External Modulators for Wireless Local Area Networks under Multi-Path Fading
Tolga Kurt (University of Ottawa, Canada), Abbas Yongacoglu (University of Ottawa, Canada) and Jean-Yves Chouinard (Laval University, Canada) 5273  V1-0277

7. Radio Over Multimode Fiber for Wireless Access
Roland Yuen (Ryerson University, Canada), Xavier N. Fernando (Ryerson University, Canada) and Sridhar Krishnan (Ryerson University, Canada) 6317  V3-1715

8. An Implementation of a Residential Gateway Controller for a Fixed Bandwidth-sharing Multiservice Residential Access Network
Tianying Ji (Wilfrid Laurier University, Canada), Shaowen Song (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 3945  V1-0023

9. The Interface Design for a Residential Gateway in a SONET over DWDM Broadband Access Network
Wei Zhang (University of Guelph, Canada), Jiandong Zheng (University of Guelph, Canada), Shaowen Song (Wilfrid Laurier University, Canada), Tianying Ji (Wilfrid Laurier University, Canada) and Li Wei (Wilfrid Laurier University, Canada) 5270  V1-0269
MONDAY, May 3, 2004

Reception at the Oakes Foyer. Open to all delegates.

IEEE Canada Awards Banquet

TIME: 18:30-22:00
PLACE: Oakes Ballroom
By ticket only.

Speaker: Dr. Ray Findlay, President IEEE 2002.

“Background to the Sunday dedication ceremony at Decew Falls. The IEEE Milestone Program”

AWARDS TO BE PRESENTED AT THE 2004 BANQUET

- E.F. Glass Western Canada Council Merit Award
- M.B. Broughton Central Canada Council Merit Award
- J.J. Archambault Eastern Canada Council Merit Award
- W.S. Read Outstanding Service Award
- Outstanding Engineering Educator Award
- Outstanding Engineer Award
- R.A. Fessenden Medal
- A.G.L. McNaughton Medal
Tuesday, May 4

Plenary Session 2

TIME: 08:15 - 09:15
ROOM: Oakes Ballroom

Address by:

The 2004 Winner

of

The McNaughton Medal

Topic: To Be Announced
Session (Oral) TM1: Modulation and Coding

Tuesday, May 04, 2004  TIME: 9:30 – 12:20

CHAIR:  Dr. L. Szczecinski,  INRS Canada

Room: Tuscarora

1. Irregular Rate-Compatible LDPC Codes for Capacity Approaching Hybrid-ARQ Schemes
Mohammadreza Yazdani (Carleton University, Canada) and Amir H. Banihashemi (Carleton University, Canada)  5286  V1-0303

2. Rate Design Rule for Superposition Coded Modulations
Gunes Karabulut (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada)  5400  V1-0365

3. Structured LDPC over URN Model Channels with Memory
Vijay Nagarajan (University of Colorado, Boulder) and Olgica Milenkovic (University of Colorado, Boulder)  5666  V1-0543

4. Generalized Asymmetric Multi-h Phase-Coded Modulation for M-ary Data Transmission
Bhumi A. Dave (University of Western Ontario, Canada) and Raveendra K. Rao (University of Western Ontario, Canada)  5676  V1-0559

Break: 10:50 – 11:00

5. Drift-Controlled Scalable Video Coding in Over-Complete Wavelet Domain
Vidhya Seran (State University of New York at Buffalo, USA) and Lisimachos Kondi (State University of New York at Buffalo, USA)  5837  V2-0789

6. Continuous Time Bandpass Delta-Sigma Modulators for a Software Defined Radio
Robert Sobot (Simon Fraser University, Canada), Shawn Stapleton (Simon Fraser University, Canada) and Marek Syrzycki (Simon Fraser University, Canada)  6034  V3-1253

7. Construction of Lattices from LDPC Codes
Mohammad Reza Rafsanjani Sadeghi (Carleton University, Canada), Amir H Banihashemi (Carleton University, Canada) and Daniel Panario (Carleton University, Canada)  6085  V3-1393

8. Analytical Evaluation of Turbo Multiuser Detection Algorithms
Nedal Elhelw (INRS Energy, Materials and Telecommunications, Canada), Cesar Hermosilla (Universidad Tecnica Federico Santa Maria, Chile) and Leszek Szczecinski (INRS Energy, Materials and Telecommunications, Canada)  6091  V3-1405
Session (Oral) TM2: CDMA

Tuesday, May 04, 2004  TIME: 9:30 – 12:20

CHAIR:  Dr. P. Kafle, TRLabs  Room: Canadiana

1. A Novel Approach to Call Blocking Probability Evaluation in Multiservice CDMA
   Keivan Navaie (Carleton University, Canada) and Farid Fadaie (University of Toronto, Canada) 5178  V1-0197

2. A Pilot Power Based Power Control and Base Station Assignment Algorithm in Cellular CDMA Networks
   Maheswaran Subramaniam (Ryerson University, Canada) and Alagan Anpalagan (Ryerson University, Canada) 5313  V1-0327

3. On The Improvement of RLS Channel Estimation in Forward Link of MC-CDMA Systems
   Pariya Khunabut (Chulalongkorn University, Thailand), Suwich Kunarutnanapruk (Chulalongkorn University, Thailand), Pruksa Tansongcharoen (Chulalongkorn University, Thailand) and Somchai Jitapankul (Chulalongkorn University, Thailand) 5729  V2-0621

4. Design Issues and Performance Analysis of CDMA Multi-beam Satellites
   Ozgur Ekici (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada) 5952  V2-1053

Break : 10:50 – 11:00

5. A Coordinated Location-Based Downlink Scheduling Scheme (CLDSS) in a Cellular CDMA Network with Partitioned Cells
   Gang Wu (Ryerson University, Canada) and Alagan Anpalagan (Ryerson University, Canada) 5512  V1-0415

6. Combined Admission Control Algorithm and Bandwidth Adaptation Algorithm in Multimedia Cellular Networks for QoS Provisioning
   Nidal Nasser (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6004  V2-1183

   Wei Zhang (University of Ottawa, Canada), Claude D'Amours (University of Ottawa, Canada) and Abbas Yongacoglu (University of Ottawa, Canada) 6011  V2-1203

8. Adaptive Cancellation of Periodic Noise and Multipath Dispersion in an Infrared Wireless CDMA System
   Balakanthan Balendran (Ryerson University, Canada) and Xavier N. Fernando (Ryerson University, Canada) 5179  V1-0201
1. Security Issues of the 802.11b Wireless LAN
Hamid Boland (Carleton University, Canada) and Hamed Mousavi (Carleton University, Canada) 5316  V1-033

2. Error Recovery Service for IEEE 802.11b Protocols via Adaptive Forward Error Correction and Dynamic Packet Sizing
Mohammed Smadi (McMaster University, Canada), Varna Szabados (McMaster University, Canada) and Barna Szabados (McMaster University, Canada) 5317  V1-033

3. QoS In IEEE 802.11 Wireless LAN: Current Research Activities
Francisco Mico (Universitat de Valencia, Spain), Pedro Cuenca (University of Castilla-La Mancha, Spain) and Luis Orozco-Barbosa (University of Castilla-La Mancha, Spain) 5587  V1-044

4. Performance Analysis of Real-time Traffic in Wireless LANs
Huifang Feng (Tianjin University, China) and Yantai Shu (Tianjin University, China) 5926  V2-1013

Break : 10:50 – 11:00

5. Performance Evaluation and Total Degradation of 16-QAM Modulations over Satellite Channels
Hisham AbdulHussein Al-Asady (Queen's University, Canada) and Mohamed Ibnkahla (Queen's University, Canada) 6006  V2-1187

6. An Advanced Broadband Satellite System Offering High-Speed Internet Access and TV Broadcast Services
Ali Grami (University of Ontario Institute of Technology, Canada) 5302  V1-0311

7. Controlled Load Service Management in Int-Serv Satellite Access Networks
Floriano De Rango (University of Calabria, Italy), Mauro Tropea (University of Calabria, Italy) and S. Marano (University of Calabria, Italy) 6895  V4-2193

8. Security Issues in Wireless Local area Networks
Debabrata Nayak (Indian Institute of Technology Bombay, India), N. Rajendran (IDRBT), D. B. Phatak(IDRBT) and V.P. Gulati (Indian Institute of Technology Bombay, India) 6198  V3-1637

9. Intrusion Detection for Wireless Local Area Network
Hongyu Yang (Civil Aviation University of China, China), Lixia Xie (Civil Aviation University of China, China) and Jizhou Sun (Tianjin University, China) 6608  V4-1949
Session (Oral) TM4: Switching, Routing and Networking  
Tuesday, May 04, 2004  
TIME: 9:30 – 12:20  
CHAIR: Dr. T. Ganesh Babu,  
Ryerson University  
Room: Chippawa

1. Pie: Scalable Routing in Peer-to-Peer Networks  
Peter Lichodzijewski (Dalhousie University, Canada), Leigh Wetmore (Dalhousie University, Canada) and A. N. Zincir-Heywood (Dalhousie University, Canada) 4265  
V1-0051

2. Adaptive Measurement-Based Admission Control using Neural Network Predictor  
Nayera Sadek (Southern Methodist University, USA), Alireza Khotanzad (Southern Methodist University, USA) and Thomas Chen (Southern Methodist University, USA) 5863  
V2-0859

3. A Robust Packet -Filtering Method For High -Bandwidth Aggregates  
Bao-Tung Wang (Columbia University) and Henning Schulzrinne (Columbia University) 5886  
V2-0905

4. Design and Implementation of Enhanced Crossbar CIOQ Switch Architecture  
Atiq Awan (Memorial University of Newfoundland, Canada), and Ramachandran Venkatesan (Memorial University of Newfoundland, Canada) 5948  
V2-1045

Break : 10:50 – 11:00

5. The Performance of TCP Congestion Control Algorithm over High-Speed Transmission Links  
Z. Chen (Concordia University, Canada), Mustafa Mehmet Ali (Concordia University, Canada) 6078  
V3-1371

6. Enhanced EPON Auto-discovery For Fast Network and Service Recovery  
Wenfeng Chen (Nortel Networks, Canada), Delfin Y. Montuno (Nortel Networks, Canada) and Kent Felske (Nortel Networks, Canada) 6283  
V3-1683

7. Simulation of Lead-Time Scheduling in PMP FWA Networks  
Robert Buchnajzer (Concordia University, Canada), J. William Atwood (Concordia University, Canada) and Adam Krzyzak (Concordia University, Canada) 6292  
V3-1693

8. IFF: A Novel Wavelength Assignment Scheme for WDM Optical Networks  
Abdelhamid Eshoul (University of Ottawa, Canada), Hussein Mouftah (University of Ottawa, Canada) 5903  
V2-0965

Bin Zhou (Queen's University, Canada), Hussein Mouftah (University of Ottawa, Canada) 6240  
V3-1653
Session (Oral) TM5: Special Session on Abstraction, Modelling and Simulation
Tuesday, May 04, 2004 TIME: 9:30 – 12:20
CHAIR: Dr. A. Lawniczak, University of Guelph
Room: Auditorium

1. Link-Layer Modeling of a Wireless Channel Using Stochastic Network Calculus
Farshid Agharebparast (University of British Columbia, Canada) and Victor C. M. Leung (University of British Columbia, Canada) 6597 V4-1923

2. Multiple Abstraction Schemes for Generalized Virtual Private Switched Networks
Ravi S. Ravindran (Nortel Networks, Canada), Peter Ashwood-Smith (Nortel Networks, Canada), Hong Zhang (Nortel Networks, Canada) and Guo-Qiang Wang (Nortel Networks, Canada) 5660 V1-0519

3. Models and Tools for Simulation of Video Transmission on Wireless Networks
Jian Zhu (Carleton University, Canada), Ashraf Matrawy (Carleton University, Canada) and Ioannis Lambadaris (Carleton University, Canada) 5834 V2-0781

4. End-to-End Rate Control for Networks with Random Access Links
Clement Yuena and Peter Marback (University of Toronto) 9008 V4-2437

Break : 10:50 – 11:00

5. An Application Framework for Mobile Internet Services
Aladdin Sleh (Bell Canada), Davison Avery and Mohammed Siddiqui (Bell Canada) 5551 V1-0439

6. Effects of Network Connection Topology and Routing Algorithm on Phase Transition and Throughput in Packet-Switching Network Model
A. T. Lawniczak (University of Guelph, Canada), K. P. Maxie (University of Guelph, Canada), A. Gerisch (University of Halle, Germany) 9004 V4-2421

7. Effects of Network Topology and Routing on Traffic in Packet-Switching Network Model
A. T. Lawniczak (University of Guelph, Canada), K. P. Maxie (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9006 V4-2429

8. Study of Packet Average Path Length and Average Speed of Delivery in Data Network Traffic Model
K.P. Maxie and A.T. Lawniczak (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9007 V4-2433

9. Effects of an Extra Link and Routing on Spatio-Temp Packet Traffic Dynamics of Network Model
K.P. Maxie (University of Guelph, Canada), A.T. Lawniczak (University of Guelph, Canada) and A. Gerisch (University of Halle, Germany) 9005 V4-2425
### Session (Oral) TM6: Modeling and Simulation I

**Tuesday, May 04, 2004**  
**TIME:** 9:30 – 12:20  
**CHAIR:** Dr. W. Li, University of Wisconsin  
**Room:** Cree

| 1. Design and Simulation of Laser Diode with Sampled Grating Structure by the Split-step Traveling Wave Approach |
| Wei Li (University of Wisconsin-Platteville, USA), W. P. Huang (McMaster University, Canada) and X. Li (McMaster University, Canada) | 6862  
V4-2151 |

| 2. A Novel Temperature-Dependent Gummel-Poon Based Large Signal for Accurate Modeling of Heterojunction Bipolar Transistors |
| Ammar Issaoun (École de Technologie Supérieure, Canada), D. Dousset (École Polytechnique de Montreal, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique de Montreal, Canada) | 4199  
V1-0027 |

| 3. Analytic Modeling and FEM Simulation of a Resonant Micromachined Magnetic Field Sensor |
| Behraad Bahreyni (University of Manitoba, Canada) and Cyrus Shafai (University of Manitoba, Canada) | 5171  
V1-018 |

| 4. Creation of Scalable Macromodels for Micro-Electromechanical Systems |
| Bryan Wan Sai Cheong (Carleton University, Canada), Adam Froimovitch (Carleton University, Canada), Thomas Hewitt (Carleton University, Canada), Tom Smy and Pavan Gunupudi (Carleton University, Canada) | 5274  
V1-0281 |

### Break: 10:50 – 11:00

| 5. An Advanced Quasi-3D Model for Semiconductor Optical Amplifiers |
| Wei Li (University of Wisconsin-Platteville, USA), G. X. Chen (McMaster University, Canada), W. P. Huang (McMaster University, Canada) and X. Li (McMaster University, Canada) | 6854  
V4-2131 |

| 6. Global Routing for VLSI Standard Cells |
| Hao Sun (University of Guelph, Canada) and Shawki Areibi (University of Guelph, Canada) | 5645  
V1-048 |

| 7. Scaling Expressions for DC Parameters of a Gummel-Poon Based model for HBT's |
| Ammar Issaoun (École de Technologie Supérieure, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique, Canada) | 4204  
V1-0035 |

| 8. A Multiresolution Reconstructive Algorithm Based on Network Theory for Electrical Capacitance Tomography |
| Zhao Ma (Wuhan University, China), Xiaoming Lin (Wuhan University, China) and Hongqing Zeng (Carleton University, Canada) | 4949  
V1-0107 |
Session (Oral) TM7: Watermarking and Retrieval I
Tuesday, May 04, 2004

1. A Rectification Method for RST Invariant Digital Image Watermarking
Yan Liu (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa, Canada)
5662  V1-0527

2. Multibit Data Hiding Based on CDMA
Yongqing Xin (University of Manitoba, Canada) and Mirek Pawlak (University of
Manitoba, Canada) 5893  V2-0935

3. Object-Based Image Watermarking Technique Using Wavelets
Jinwen Zan (Concordia University, Canada), M. Omair Ahmad (Concordia University,
Canada) and M.N.S. Swamy (Concordia University, Canada) 5988  V2-1143

4. Personal Identification Based on Both Facial Images and Watermarking
Techniques in Network Environment
Masanori Hashimoto (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin
University, Japan) 5941  V2-1029

Break: 10:50 – 11:00

5. Audio Quality Measurement by Using Digital Watermarking
Libin Cai (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa,
Canada) 5994  V2-1159

Architecture for Information Retrieval
Ali Chamam (Ecole polytechnique de Montreal, Canada), Samuel Pierre (Ecole
Polytechnique de Montreal, Canada) and Roch Glitho (Ericsson Research Canada,
Canada) 6636  V4-1963

7. Geometrically Robust Image Watermarking via Pseudo-Zernike Moments
Yongqing Xin (University of Manitoba, Canada), Simon X. Liao (University of
Winnipeg, Canada) and Mirek Pawlak (University of Manitoba, Canada) 5894  V2-0939

8. Digital Watermarking by Using A Feature-based Multiwavelet Fusion Approach
Jiying Zhao (University of Ottawa, Canada), Zheng Liu (University of Ottawa, Canada)
and Robert Laganiere (University of Ottawa, Canada) 5680  V1-0563
Session (Oral) TM8: Speech and Audio Processing
Tuesday, May 04, 2004
TIME: 9:30 – 12:20
CHAIR: Mr. K. Umapathy, University of Western Ontario
Room: Hennipen South

1. Not Available

2. Wavelet based Speech Enhancement using Two Different Threshold-based Denoising Algorithms
A. Lallouani (ETS, University of Quebec, Canada), Marcel Gabrea (ETS, University of Quebec, Canada) and Christian S. Gargour (ETS, University of Quebec, Canada) 5310  V1-0315

3. Adaptive Processing of Singing Voice Timbre
Francois Thibault (McGill University, Canada) and Philippe Depalle (McGill University, Canada) 5866  V2-0871

4. Speech Modeling By Non-Stationary Partials with Time Varying Amplitude and Frequency
Ying Huang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6041  V3-1273

Break: 10:50 – 11:00

5. AM-FM Decomposition of the Speech Signal Using MWL Criterion
Reza Rashidi Far (Queens University, Canada) and Saeed Gazor (Queens University, Canada) 6413  V3-1769

6. Correlation Coefficient-based Voice Activity Detector Algorithm
Alexandru Craciun (University of Quebec, Canada) and Marcel Gabrea (University of Quebec, Canada) 6459  V3-1789

7. Real Time Implementation of an Adaptive Filter for Speech Enhancement
John Creighton (University of New Brunswick, Canada) and Rajamani Doraiswami (University of New Brunswick, Canada) 6901  V4-2201

8. Improving Speech Analysis Methods for Robust Automatic Recognition
Douglas O’shaughnessy (INRS-Universite du Quebec, Canada) 5115  V1-0161

Schedule of Events Page 33 of 72
Final Program

Session (Oral) TM9: Transmission and Distribution Systems
Tuesday, May 04, 2004  TIME: 9:30 – 12:20
CHAIR:  Dr. A. M. Gaouda,  
United Arab Emirates University
Room: Ontario

1. An Electromagnetic Transient Simulation Model for Voltage Sourced Converter Based HVDC Transmission
Behzad Qahraman (University of Manitoba, Canada), Ebrahim Rahimi (University of Manitoba, Canada) and Aniruddha M. Gole (University of Manitoba, Canada) 5957  V2-1063

2. Monitoring Capacitor Banks Interaction in Distribution Systems
Ahmed M. Gaouda (United Arab Emirates University, UAE) 6438  V3-1781

3. Expansion of Transmission Systems in a Deregulated Environment
Yong Zheng (Saskatchewan Power Corporation, Canada) and Nurul Chowdhury (University of Saskatchewan, Canada) 6604  V4-1943

4. Dynamic Analysis of Transmission Line Connection in Restoration of Interconnected Power Systems
Morteza Kheradmandi (Sharif University of Technology, Iran) and M. Ehsan (Sharif University of Technology, Iran) 6176  V3-1621

Break: 10:50 – 11:00

5. Identification and synthesis of the models electromechanical energy converters
Alexander Shaydurov (McGill University, Canada) 5652  V1-0501

6. Power Flow Control and Loss Minimization with UPFC
Alireza Farhangfar (University of Alberta, Canada), S. Javad Sajjadi (University of Tehran, Iran) and Saeed Afsharnia (University of Tehran, Iran) 5445  V1-0385

7. Finite Element Analyses in the Design Optimization of Winding Support and Tank Wall of Power Transformers
Erich Schmidt (Vienna University of Technology, Austria), Peter Hamberger (Transformatoren GmbH & Co, Austria) 5928  V2-1021

8. Evaluation of Magnetic Field from Different Power Transmission Line Configurations in Malaysia
Ismail Said (Universiti Tenaga Nasional, Malaysia), Nazaruddin A Rahman and Halil Hussain (Universiti Tenaga Nasional, Malaysia), Ahmed Farag and T. Juhana (Universiti Tenaga Nasional, Malaysia) 5454  V1-0393
Session (Oral) TM10: Computer Architecture

Tuesday, May 04, 2004  TIME: 9:30 - 12:20
CHAIR: Mr. G. Bailak, MD Robotics  Room: Oneida

1. Performance Analysis of Clustered Processors
Sepehr Zarrabi (University of Victoria, Canada) and Amirali Baniasadi (University of Victoria, Canada) 5902  V2-0959

2. A Reliability Study on Switching Fabric Based System Architecture
Alice Rueda (University of Manitoba, Canada) and Mirek Pawlak (University of Manitoba, Canada) 5924  V2-1005

3. Withdrawn 6030

4. An Improved on-line Monitoring Technique for a Fault-tolerant Computing Node
Musbah Elahresh (University of Belgrade), Jovan Djordjevic (University of Belgrade), Milo Tomasevic (University of Belgrade) and Milivoje Aleksic (ATI Technologies, Canada) 6148  V3-1553

Break: 10:50 – 11:00

David M. Hiemstra (MD Robotics, Canada) and George Bailak (MD Robotics, Canada) 7018  V4-2341

6. Improving performance of a DSM system by the communication controller optimizations
Milan Tončev (Alcatel, Canada), Milo Tomasevic (University of Belgrade), Jovan Djordjevic (University of Belgrade) and Milivoje Aleksic (ATI Technologies, Canada) 5943  V2-1035

7. A New Approach for Configuration Compression in Virtex Based RTR Systems
Farshid Farshadjam (Iran University of Sci. & Technology, Iran), Mahmood Fathy (Iran University of Sci. & Technology, Iran) and Mehdi Dehghan (Amirkabir University of Technology, Iran) 5970  V2-1093

8. Object-Aware Cache: Higher Hit-Ratio in Object-Oriented ASIPs
Maziar Goudarzi (Sharif University of Technology, Iran), Shaahin Hessabi (Sharif University of Technology, Iran) and Alan Mycroft (University of Cambridge, UK) 5752  V2-0653
Student Paper Award Lunch:

TIME: 12.30-14.15
PLACE: Oakes Ballroom

OPEN TO ALL DELEGATES

Student Paper Contest Winners will be announced.

Guest speaker: Terry Peach
Manager - Organization and Staffing
GE Canada.

Sponsored by GE Canada
1. A Novel Parallel Detection Architecture For Modular MIMO Receivers
Zouheir Rezki (Ecole de Technologie Superieure, Canada), Francois Gagnon (Ecole de Technologie Superieure, Canada) and Jean Belzile (Ecole de Technologie Superieure, Canada)  5993  V2-1155

2. Spatial-Temp-Frequency Decomposition for 3D MIMO Microcellular Environments
Hamidreza Saligheh Rad (Queens University, Canada), Saeed Gazor (Queens University, Canada) and Kamal Shahtalebi (Shahrekord University, Iran)  6020  V3-1229

3. A Cross-Layer Design for MIMO Rayleigh Fading Channels
Amine Maaref (University of Quebec, Canada) and Sonia Aissa (University of Quebec, Canada)  6935  V4-2247

4. Performance analysis of a low complexity space-time detector in Rayleigh fading environments
Naveen Mysore and Jan Bajcsy (McGill University, Canada)  6966  V4-2271

5. OFDMA for the 4th Generation Cellular Networks
Gholamreza Parsae (Iran Telecommunication Research Center, Iran) and Abdulrahman Yarali (Murray State University, USA)  6993  V4-2325

Break : 15:50 – 16:10

6. A Novel Technique for Peak to Average Power Ratio Reduction in OFDM Systems
Mohammad E.R. Khan (Asian Institute of Technology, Thailand), Kazi M. Ahmed (Asian Institute of Technology, Thailand)  5135  V1-0165

7. Signal-to-Interference Ratio Estimation in CDMA Systems
Mohamed Abou-Khousa and Ali Ghayeb (Concordia University, Canada) and Mohamed El-Tarhuni (American University of Sharjah, UAE)  6064  V3-1333

8. Implementation and Field Test of a New Channel Estimation Technique for DVB-T System
Sili Lu (Laval University, Canada), Assia Semmar (Laval University, Canada), Xianbin Wang (Communication Research Centre, Canada), Yiyan Wu (Communication Research Centre, Canada), Jean-Yves Chouinard (Laval University, Canada) and Paul Fortier (Laval University, Canada)  6067  V3-1343

K. Ghanem and A. T. Denidni (University of Quebec, Canada)  6123  V3-1487

10. A novel Multiuser Subcarrier and Bit Joint Allocation Algorithm For OFDM System
Peng Wang (Tianjin University, China), Yu Zhao (Tianjin University, China) Chunping Hou (Tianjin University, China) and Dazhong Cao (Tianjin University, China)  5444  V1-0381
Session (Oral) TA2: Ad-hoc Networks

Tuesday, May 04, 2004  
TIME: 14:10 – 17:30  
CHAIR: Dr. N. Georganas, University of Ottawa  
Room: Haida

1. Connectivity in Inter-vehicle Ad Hoc Networks  
Maen M. Artimy (Dalhousie University, Canada), William Robertson (Dalhousie University, Canada) and William J. Phillips (Dalhousie University, Canada) 5284  
V1-029

2. MUNet: Multicasting Protocol in Unidirectional Ad-hoc Networks  
Noparat Vanitchanant (University of Southern California, USA), John Silvester (University of Southern California, USA) and Virote Vipanunt (IEEE Computer Society) 5905  
V2-097

3. Connectivity Maintenance and Coverage Preservation in Wireless Sensor Networks  
Di Tian (University of Ottawa, Canada) and Nicolas D. Georganas (University of Ottawa, Canada) 5971  
V2-109

4. A Network Layer Based Architecture for Service Discovery in Mobile AD HOC Networks  
Jerry Tyan (University of Guelph, Canada) and Qusay H. Mahmoud (University of Guelph, Canada) 6080  
V3-137

5. Efficient Available Bandwidth Estimation in Ad Hoc Networks  
Liang Zhang (Tianjin University, China), Yantai Shu (Tianjin University, China), Yan Liu (Tianjin University, China) and Guanghong Wang (Tianjin University, China) 5738  
V2-063

Break : 15:50 – 16:10

Xiaobing Hou and David Tipper (University of Pittsburg, USA) 6823  
V4-2099

7. Evaluation of Ad hoc Networking Over the Fixed 3G Backbone  
Ahmed Barnawi (University of Bradford, UK) and John G. Gardiner (University of Bradford, UK) 6170  
V3-1605

8. A TCP Congestion Control Algorithm for Wireless Internet Connections  
H. Yaiche, S. Pierre and A. Quintero A (Ecole Polytechnique de Montreal, Canada) 6463  
V3-1797

9. Authenticated Secure Communications in Mobile Ad hoc Networks  
Muhammad Junaid Bohio (University of Ottawa, Canada) and Ali Miri (University of Ottawa, Canada) 6289  
V3-1689

10. Strategyproof Trust Management in Wireless Ad Hoc Network  
Huiping Sun (Beijing University of Posts and Telecommunications, China), Junde Song (Beijing University of Posts and Telecommunications, China) 6167  
V3-1593
1. A Hybrid Algorithm Using Discrete Cosine Transform and Gabor Filter Bank for Texture Segmentation  
Nezamoddin Nezamoddini-Kachouie (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada), Paul Fieguth (University of Waterloo, Canada) 6469 V3-1805

2. Optimization Algorithm for Restoring an All-Focused Micromechanical Structure Image  
Tina Shoa (University of Manitoba, Canada), Cyrus Shafai (University of Manitoba, Canada), Gabriel Thomas (University of Manitoba, Canada) and Alireza Shoa (McMaster University, Canada) 6307 V3-1707

3. Multispectral Imaging of Ice  
Dennis Gregoris (MD Robotics Limited, Canada), Simon Yu (MD Robotics Limited, Canada) and Frank Teti (MD Robotics Limited, Canada) 6753 V4-2051

4. Joint Blind Deconvolution, Fusion and Classification of Multi-frame Imagery  
Jianxin Han (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6777 V4-2061

5. A Comparative Study of Fourier Descriptors and Hu’s Seven Moment Invariants for Image Recognition  
Qing Chen (University of Ottawa, Canada), Emil Petriu (University of Ottawa, Canada), Xiaoli Yang (Lakehead University, Canada) 4895 V1-010

Break : 15:50 – 16:10

6. A Hybrid Range Imaging System Solution for In-Flight Space Shuttle Inspection  
Ross Gillett (MD Robotics Limited, Canada), Andrew Kerr (MD Robotics Limited, Canada), Christian Sallaberger (MD Robotics Limited, Canada), Daven Maharaj (Optech Incorporated, Canada), Eric Martin (Optech Incorporated, Canada), Robert Richards (Optech Incorporated, Canada) and A. Ulitsky (Optech Incorporated, Canada) 6861 V4-2147

7. Design of an Electronic Saccadic Imaging System  
Winnie Wong (York University, Canada) and Richard Hornsey (York University, Canada) 6916 V4-2227

Isabel Deslauriers (McGill University, Canada) and Jan Bajcsy (McGill University, Canada) 6973 V4-2297

9. Identifying Distinguishing Size and Shape Features of Mine-like Objects in Sidescan Sonar Imagery  
Patrick C. Connor (University of New Brunswick, Canada) and Maryhelen Stevenson (University of New Brunswick, Canada) 6038 V3-1263
Session (Oral) TA4: Watermarking and Retrieval II
Tuesday, May 04, 2004
TIME: 14:10 – 17:30
CHAIR: Dr. N. Boulgouris, University of Toronto
Room: Hennipen North

1. Fused Watermark Detection on Noisy Interpolated Images
Alexia Giannoula (University of Toronto, Canada), Nikolaos Boulgouris (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 5998 V2-1171

2. RST Invariant Digital Image Watermarking based on Resynchronization
Dong Zheng (University of Ottawa, Canada) and Jiying Zhao (University of Ottawa, Canada) 6045 V3-1281

3. Minimizing Human-Machine Interactions in Automatic Image Retrieval
Kambiz Jarrah (Ryerson University, Canada), Paisarn Muneesawang (Ryerson University, Canada), Ivan Lee (University of Sydney, Australia) and Ling Guan (Ryerson University, Canada) 6164 V3-1589

4. A Novel Robust Image Watermarking Using a Chirp Based Technique
Arunan Ramalingam (Ryerson University, Canada), Sridhar Krishnan (Ryerson University, Canada) 6562 V4-1889

5. A Novel Blind Watermarking Based on Lattice Vector Quantization
Xiaoqiang Li and Xiangyang Xue (Fudan University, China) 6506 V3-1823

Break: 15:50 – 16:10

6. Neural-fuzzy Approach for Content-based Retrieval of Digital Video
Siddhivinayak Kulkarni (Nipissing University, Canada) 6930 V4-2235

7. Analysis of distance based indexing methods for similarity search
Mahdi Mirzazadeh (University of Waterloo, Canada) and Bashir S. Sadjad (University of Waterloo, Canada) 7483 V4-2391

8. A Wavelet Transform Based Digital Image Watermarking Scheme
Mohammad Abolfazeli (University of Manitoba, Canada), Gabriel Thomas (University of Manitoba, Canada) and Zahra Moussavi (University of Manitoba, Canada) 5854 V2-0823

9. A Steganalysis Method, New Fragile Watermark Algorithm and Its Applications
Dong Wang (Tianjin University, China), Mingchu Li (Tianjin University, China) and Jizhou Sun (Tianjin University, China) 5726 V2-0613
Session (Oral) TA5: Biomedical Signal and Image Analysis
Tuesday, May 04, 2004
TIME: 14:10 – 17:30
CHAIR: Dr. S. Krishnan, Ryerson University
Room: Chipppawa

1. An Improved Method for Muscle Activation Detection During Gait
Lanyi Xu (University of Ottawa, Canada) and Andy Adler (University of Ottawa, Canada) 5368 V1-0357

2. Functional Mapping of Multiple Mechanomyographic Signals to Hand Kinematics
Adam Grossman (University of Toronto, Canada), Jorge Silva (Bloorview Macmillan Children's Centre, Canada) and Tom Chau (Bloorview Macmillan Children's Centre, Canada) 5649 V1-0493

3. Relationship between Airflow and Frequency-Based Features of Tracheal Respiratory Sound
Marziyeh Golabbakhsh (University of Manitoba, Canada) and Zahra Moussavi (University of Manitoba, Canada) 5826 V2-0751

4. Biomedical Data Classification Using Hierarchical Clustering
Hu Yang (University of Manitoba, Canada) and N.J. Pizzi (Institute for Biodiagnostics, National Research Council, Canada) 6546 V4-1861

5. Multifractal Characterization of Synthetic ECG in the Presence of Coloured Noise
Michael Potter (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6915 V4-2221

6. A Novel Way of Lossless Compression of Digital Mammograms Using Grammar Codes
Xiaoli Li (Ryerson University, Canada), Sridhar Krishnan (Ryerson University, Canada) and Ngok-Wah Ma (Ryerson University, Canada) 6815 V4-2085

7. A Multifractal Analysis Approach for SAR Image Segmentation
Abdelhakim El-Boustani (University of Manitoba, Canada), Sharjeel Siddiqui (University of Manitoba, Canada), Witold Kinsner (University of Manitoba, Canada) Slawo Wesolkowski (University of Waterloo, Canada) 6103 V3-1427

8. A Novel Morphological-based Carotid Artery Contour Extraction
Amr R. Abdel-Dayem (University of Western Ontario, Canada) and Mahmoud R. El-Sakka (University of Western Ontario, Canada) 6551 V4-1873

Maciej Dajnowiec (Ryerson University, Canada), Javad Alirezaie (Ryerson University, Canada) 6060 V3-1325

Break : 15:50 – 16:10
Session (Oral) TA6: Power Converters and Motor Drives

Tuesday, May 04, 2004  TIME: 14:10 – 17:30

CHAIR: Dr. H. Karmaker, GE Canada

Room: Ontario

1. Development of a Neuro-Fuzzy Controller for Induction Motor
Hao Wen (Lakehead University, Canada) and Mohammad Nasir Uddin (Lakehead University, Canada) 6018  V3-1225

2. Stability Conditions of Adaptive Pseudo-Reduced-Order Flux Observer for Vector-Controlled Sensorless IM Drives
Hossein Madadi Kojabadi (University of New Brunswick, Canada), Liuchen Chang (University of New Brunswick, Canada) and Rajamani Doraiswami (University of New Brunswick, Canada) 6056  V3-1313

3. Characteristics of the Measured Current Harmonics Produced by Clusters of Variable Speed Drives
Éloi Ngandui (Université du Québec à Trois-Rivières, Canada) 6070  V3-1347

4. Sensorless Control of Permanent Magnet Synchronous Motor Using Extended Kalman Filter
Albert Qiu (Queen's University), Bin Wu (Ryerson University, Canada) and Hassan Kojori (Honeywell Ltd., Canada) 6150  V3-1557

5. Modeling Techniques of Resonant Converters: Merits and Demerits
Mohamed Z. Youssef (Queen's University, Canada) and Praveen K. Jain (Queen's University, Canada) 5227  V1-0241

Break : 15:50 – 16:10

6. A ZVS Current-Fed AC-DC PWM Full Bridge Converter
Gerry Moschopoulos (University of Western Ontario, Canada) and Wannian Huang (University of Western Ontario, Canada) 5691  V1-0579

7. A Very Fast Direct Torque Control for Permanent Magnet Synchronous Motors
Start up
Hassan Ghasemi (University of Waterloo, Canada), Sadegh Vaez-Zadeh (University of Tehran, Iran) 6263  V3-1673

Gerry Moschopoulos (University of Western Ontario, Canada) and Jayesh Shah (University of Western Ontario, Canada) 5692  V1-0583

David Feng (Ryerson University, Canada), Bin Wu (Ryerson University, Canada), Sanmin Wei (Ryerson University, Canada) and David Xu (Ryerson University, Canada) 6118  V3-1471
Session (Oral) TA7: Embedded Systems

Tuesday, May 04, 2004 TIME: 14:10 – 17:30

CHAIR: Dr. G. Khan, Ryerson University Room: Oneida

1. Hardware-Software Co-Synthesis of Bus Architecture Embedded Devices
Jacob Levman (Ryerson University, Canada), Gul Khan (Ryerson University, Canada) and Javad Alirezaie (Ryerson University, Canada) 4552 V1-0069

2. A New Approach to Test Cases Generation based on Real-Time Process Algebra (RTPA)
Yizheng Yao (University of Calgary, Canada) and Yingxu Wang (University of Calgary, Canada) 6134 V3-1515

3. On the Extension of SystemC by SystemVerilog Assertions
Ali Habibi (Concordia University, Canada) and S. Tahar (Concordia University, Canada) 6549 V4-1869

4. Plurix, a Distributed Operating System extending the Single System Image Concept
Ralph Goeckelmann and M. Schoettner (University of Ulm, Germany), S. Frenz and P. Schulthess (University of Ulm, Germany) 6669 V4-1985

5. A New Graph Structure for Hardware-Software Partitioning of Heterogeneous Systems
Gul Khan (Ryerson University, Canada) and Matthew Jin (Ryerson University, Canada) 5222 V1-0229

Break: 15:50 – 16:10

6. Implementing Task Scheduling and Event Handling in RTOS+
Cyprian F. Ngolah (University of Calgary, Canada), Yingxu Wang (University of Calgary, Canada) and Xinming Tan (University of Calgary, Canada) 6136 V3-1523

7. An Implementation of the Hardware Partition in A Software/Hardware Co-Designed Java Virtual Machine
Hejun Ma (University of New Brunswick, Canada), Ken Kent (University of New Brunswick, Canada) and David Luke (University of New Brunswick, Canada) 6758 V4-2057

8. Formal Description of a Generic Graph Model with RTPA
Aderemi Adewumi (University of Lagos, Nigeria) and Yingxu Wang (University of Calgary, Canada) 6140 V3-1537

9. 11-Bit Floating-Point Pipelined Analog to Digital Converter in 0.18µm CMOS
Mehdi Sadaghdar (Simon Fraser University, Canada), Kris Iniewski (Simon Fraser University, Canada) and Marek Syrzycki (Simon Fraser University, Canada) 6128 V3-1503

10. Design of a Flexible Cryptographic Hardware Module
Andrew W. H. House (Memorial University of Newfoundland, Canada) and Howard M. Heys (Memorial University of Newfoundland, Canada) 5715 V1-0603
Session (Oral) TA8: Fuzzy Systems and Neural Networks
Tuesday, May 04, 2004  TIME:  14:10 – 17:30
CHAIR:  Mr. B. Di-Stefano, Nuptek Systems  Room: Tuscarora

1. Application of Fuzzy Logic for Improved Software Project Management Estimations
Imran Siwani (University of Western Ontario, Canada) and Miriam Capretz (University of Western Ontario, Canada) 6573  V4-1897

2. Scheduling of DSP Data Flow Graphs with Processing Times Characterized by Fuzzy Sets
Awni Itradat (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada) and Ali Shatnawi (Jordan University of Science and Technology, Jordan) 6028  V3-1245

3. Fuzzy Logic Control in RPR Network
Xin Zhang (Ryerson University, Canada), Hossein Ghandehari and Gary Yip (Ryerson University, Canada), Ngok-Wah Ma and Kaamran Raahemifar (Ryerson University, Canada) 6564  V4-1893

4. Reference Model Supervisory Loop for Neural Network Based Adaptive Control of a Flexible Joint with Hard Nonlinearities
Hicham Chaoui (Université du Québec en Outaouais, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada) and Ahmed Lakhsasi (Université du Québec en Outaouais, Canada) 6720  V4-2029

5. Representing Generalized Fuzzy Automata in Recurrent Neural Networks
Mansoor Doostfatemeh (University of Guelph, Canada) and Stefan C. Kremer (University of Guelph, Canada) 6579  V4-1901

Break : 15:50 – 16:10

6. Dynamic Process Control for In-Situ Bioremediation System
Zhiying Hu (University of Regina, Canada), Christine W. Chan (University of Regina, Canada) and Gordon H. Huang (University of Regina, Canada) 6081  V3-1385

7. On Classification of Simulated Sensory Deficiency
Aimee L. Betker (University of Manitoba, Canada), Z. Moussavi and T. Szturm (University of Manitoba, Canada) 6014  V2-1211

8. Performance Evaluation of a Fuzzy Based Jitter Management Algorithm
Akbar Ghaffar Pour Rahbar (University of Ottawa, Canada), Oliver Yang (University of Ottawa, Canada) and Frank Zhang (University of Ottawa, Canada) 7027  V4-2351

9. Simulation of Two-Rate Adaptive Neural Network and Fuzzy Logic Hybrid Control for Stochastic Model of an Experimental Aircraft
Igor Astrov (Tallinn University of Technology, Estonia), Andrus Pedai (Tallinn University of Technology, Estonia) and Ennu Rustern (Tallinn University of Technology, Estonia) 5001  V1-0125

10. Design of QFT Robust Controller for Fuzzy Systems
Mehdi Narimani (Isfahan University of Technology, Iran) and Farid Sheikholeslam (Isfahan University of Technology, Iran) 6545  V4-1857
1. An Improved FPGA Implementation of a Hyperelliptic Cryptosystem Coprocessor
Grace Elias (University of Ottawa, Canada), Lo Sing Cheng (University of Ottawa, Canada), Ali Miri (University of Ottawa, Canada) and Tet Hin Yeap (University of Ottawa, Canada) 5832 V2-077

2. Modeling the Interconnects of Xilinx Virtex FPGAs and Derivation of their Test Configurations
Christian Giasson (University of Alberta, Canada) and Xiaoling Sun (University of Alberta, Canada) 5857 V2-083

3. A Dual Round-Robin Arbiter for Split-Transaction Buses in System-on-Chip Implementations
James Reed (Queen's University, Canada) and Naraig Manjikian (Queen's University, Canada) 5858 V2-0835

4. Hardware Implementation of the Optimized Transform and Quantization Blocks of H.264
Roman Kordasiewicz (McMaster University, Canada) and Shahram Shirani (McMaster University, Canada) 5895 V2-0943

5. A Reconfigurable Digital IC Tester Implemented using the ARM Integrator Rapid Prototyping System
Fang Pang (University of Alberta, Canada), Tyler Brandon (University of Alberta, Canada), Bruce Cockburn (University of Alberta, Canada) and Michael Hume (University of Alberta, Canada) 6599 V4-1931

6. Low-Level Run-Time Reconfiguration of FPGAs for Dynamic Environments
Rami Abielmona (University of Ottawa, Canada), Voicu Groza (University of Ottawa, Canada), Nizar Sakr (University of Ottawa, Canada) and Jonathan Ho (University of Ottawa, Canada) 6857 V4-2135

7. Embedded System Partitioning with Flexible Granularity by using a Variant of Tabu Search
Usman Ahmed (Ryerson University, Canada) and Gul N. Khan (Ryerson University, Canada) 6805 V4-2073

8. Constructive and Local Search Heuristic Techniques for FPGA Placement
Xiaojun Bao (University of Guelph, Canada) and Shawki Areibi (University of Guelph, Canada) 5657 V1-0505

9. Enhanced Technique for Built-In-Self-Test of Sequential Logic
Benedict Chien (Queen's University, Canada) and Stan Simmons (Queen's University, Canada) 6692 V4-2009

10. Thermo-mechanical Stress Analysis of VLSI Devices by Partially Coupled Finite Element Method
Mohammed Bougataya (Université du Québec en Outaouais, Canada), Ahmed Lakhassi (Université du Québec en Outaouais, Canada), Yvon Savaria (École Polytechnique de Montréal, Canada), Danniel Massicotte (Université du Québec à Trois-Rivières, Canada) 5658 V1-0509
Special Session (Oral) TA10: Radio Resource Mgmt. in Next Generation Wireless Networks

Tuesday, May 04, 2004
TIME: 14:10 – 17:30
CHAIR: Dr. A. Anpalagan
Room: Auditorium

1. **On the Capacity of Cellular Fixed Relay Networks**
Hakan Bolukbasi (Carleton University, Canada), Halim Yanikomeroglu (Carleton University, Canada), David D. Falconer (Carleton University, Canada) and Shalini Periyalwar (Nortel Networks, Canada) 6914  V4-2217

2. **The Capacity of Multi-Antenna Array System in Microcell and Picocell Wireless Environment**
Apichart Intarapanich (University of Calgary, Canada), Robert J. Davies (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) and Padam Lal Kafle (University of Calgary, Canada) 5839  V2-0797

3. **Scalable Video Transmission over Orthogonal Frequency Division Multiplexing Wireless Channels**
George Partasides (SUNY at Buffalo, USA) and Lisimachos P. Kondi (SUNY at Buffalo, USA) 5803  V2-0693

4. **Fast Packet Scheduling Assuring Fairness and Quality of Service in HSDPA**
Ghassane Aniba (University of Quebec, Canada) and Sonia Aissa (University of Quebec, Canada) 6934  V4-2243

5. **Seamless QoS - Aware Fair Handoff in Multimedia Wireless Networks width Optimized Revenue**
Nidal Nasser (Queen's University, Canada) and Hossam Hassanein (Queens University, Canada) 6008  V2-1195

**Break : 15:50 – 16:10**

6. **On 4G and Beyond Multi-hop Wireless Networks**
Ahmed M. Safwat (Queen's University, Canada) 6967  V4-2277

7. **A Study of DiffServ based QoS Issues in Next Generation Mobile Networks**
Thimma Ganesh Babu (Ryerson University), Jerry Hayes (Concordia University) and Alagan Anpalagan (Ryerson University) 7029  V4-2359

8. **Integrated Solutions for Wireless MPLS and Mobile IP: Current Status and Future Directions**
Abd-Elhamid Taha (Queen's University, Canada), Hossam Hassanein (Queen's University, Canada), Hussein Mouftah (University of Ottawa, Canada) 6114  V3-1463
IEEE

CCECE 2004 CCGÉI

Wednesday, May 5.

Schedule of Events

Session Code:

Day       Monday,  Tuesday,  Wednesday.
Type      Oral – Morning,  Oral  Afternoon,  Poster – afternoon.
Session Number.
Presentation Number.

Ex.  WM03.06 = Wednesday  Morning  Session 3  Presentation 6.
1. A Differential Space-Time Code Receiver using the EM-Algorithm
   Michael L.B. Riediger (Simon Fraser University, Canada) and Paul K.M. Ho (Simon Fraser University, Canada) 5165  V1-018

2. Kalman Filtering for Channel Estimation in Space-Time Coded Systems
   Haizhen Jin (McGill University, Canada) and Harry Leib (McGill University, Canada) 5243  V1-025

3. Space-Time Coding and Signal Space Diversity in the Presence of Channel Estimation Errors
   Tolga Kurt (University of Ottawa, Canada) and Hakan Delic (Bogazici University, Turkey) 5272  V1-027

4. Unitary Space-Time Codes from Group Codes: Permutation Codes Variant II
   Terasan Niyomsataya (University of Ottawa, Canada), Ali Miri (University of Ottawa, Canada) and Monica Nevins (University of Ottawa, Canada) 5712  V1-059

5. Tracking Time-Selective Fading Channels for Space-Time Block Coding in Impulsive Noise
   Ziauddin M. Kamran (McMaster University, Canada), T. Kirubarajan and Alex B. Gershman (McMaster University, Canada) 5800  V2-068

6. Receive Antenna Selection for Space-Time Block Codes
   Xiang Nian Zeng (Concordia University, Canada) and Ali Ghrayeb (Concordia University, Canada) 6075  V3-136

   Break : 10:10 – 10:30

7. Capacity of PPM Ultra-Wideband Communications with Inter Pulse Interference
   Reza Pasand (University of Calgary, Canada), John Nielsen (University of Calgary, Canada), Abu B. Sesay (University of Calgary, Canada) 7028  V4-235

8. Single-Carrier Concatenated Space-Time Block Coded Transmissions over Selective -Fading Channels
   Tuan Tran (University of Calgary, Canada), Tung X. Lai (University of Calgary, Canada) and Abu B. Sesay (University of Calgary, Canada) 6159  V3-157

9. Improved Space-Time Trellis Codes with Three and Four Transmit Antennas
   David Bernier (Royal Military College, Canada) and Francois Chan (Royal Military College, Canada) 6816  V4-208

10. Iterative Decoding Algorithm of Lattices
    Mohammad Reza Rafsanjani Sadeghi (Carleton University, Canada), Amir H. Banihashemi (Carleton University, Canada) and Daniel Panario (Carleton University, Canada) 6094  V3-141

11. Computer Design of Super-Orthogonal Space-Time Trellis Codes
    Brady Laska (Royal Military College, Canada), Dustin Dunwell (Royal Military College, Canada), Francois Chan (Royal Military College, Canada) and Hamid Jafarkhani (University of California at Irvine, USA) 6888  V4-217
Session (Oral) WM2: CDMA Systems / Advanced Coding
Wednesday, May 5, 2004  TIME:  8:10 -12:10
CHAIR:  Dr. A. Mirbagheri, University of Toronto
Room: Chippawa

1. Reverse-Link Power Allocation in Two-Hop Multimedia CDMA Networks
Dave Walsh and Halim Yanikomeroglu (Carleton University, Canada) 6053 V3-1305

2. Performance of Multicode DS/CDMA with Noncoherent M-ary Orthogonal Modulation in the Presence of Timing Errors
Cyril-Daniel Iskander (Florida Atlantic University, USA) 6092 V3-1409

3. An Improved Widely Linear Receiver for Cyclostationary CDMA Systems with OQPSK Modulation
Arash Mirbagheri (University of Toronto, Canada), Konstantinos N. Plataniotis and Subbarayan Pasupathy (University of Toronto, Canada) 6467 V3-1801

4. BER Performance of STBC over Frequency Selective Fading Channels in the Downlink WCDMA System
Tung X. Lai and Abu B. Sesay (University of Calgary, Canada) 6173 V3-1613

5. An Iterative MMSE-Decision Feedback Multiuser Detector for Space-Time Coded Multicarrier CDMA System
Padam L. Kafle (TRLabs, Calgary, Canada), Abu B. Sesay and J. McRory (TRLabs, Calgary, Canada) 6968 V4-2281

6. A Linear Decoder for Vector Quantization over a CDMA Channel
Ha H. Nguyen (University of Saskatchewan, Canada) 6852 V4-2125

Break: 10:10 – 10:30

7. Codesign Implementation of a 3G Base Station Receiver
Sébastien Jomphe and Jean Belzile (Ecole de Technologie Supérieure, Canada), Sofiène Affes (Institut national de la recherche scientifique, Canada) and Karim Cheikhrouhou (Institut national de la recherche scientifique, Canada) 6007 V2-1191

8. Signal Mappings of 8-ARY Constellations for BICM-ID Systems over a Rayleigh Fading Channel
Ngh Tran (University of Saskatchewan, Canada) and Ha Nguyen (University of Saskatchewan, Canada) 6471 V3-1809

9. A Novel Context Modeling Scheme for Motion Vectors Context-Based Arithmetic Coding
Mahmoud Ghandi (Sharif University of Technology, Iran), Mohammad Mahdi Ghandi (University of Essex, UK) and Mohammad Bagher Shamsollahi (Sharif University of Technology, Iran) 6713 V4-2021

10. A Union Bound Based Evaluation Technique for Convolutionally and Turbo Coded Communication Systems
Bo Xu (McGill University, Canada) and Jan Bajcsy (McGill University, Canada) 6970 V4-2287

11. A Multi-wavelet Packet Modulation in Wireless Communications
Mingli You (Dalhousie University, Canada) and Jacek Ilow (Dalhousie University, Canada) 7302 V4-2367
Session (Oral) WM3: Internetworking and Protocols
Wednesday, May 5, 2004  TIME:  8:10 – 12:10
CHAIR:  Dr. Ganesh Babu, Ryerson University
Room:  Canadiana

1. SDL Modeled Hybrid Error Control Scheme for Reliable Multicast over Internet
Bo Rong (Universite du Quebec, Canada), Alain Servais and Maria Bennani (Universite du Quebec, Canada), Ahmed Elhakeem (Concordia University, Canada) and Michel Kadoch (Universite du Quebec, Canada) 5511  V1-0409

2. An IP Traceback Mechanism for Reflective DoS Attacks
Bao-Tung Wang (Columbia University) and Henning Schulzrinne (Columbia University) 5885  V2-0901

3. An Approach to Solving a Multicasting Scalability Issue in MPLS Networks Using State Encoding
Omar Banimelhem (Concordia University, Canada), J. William Atwood (Concordia University, Canada) and Anjali Agarwal (Concordia University, Canada) 6583  V4-1911

4. Multicasting with Delay and Delay Variation Constraints Using Genetic Algorithm
Moussa Hamdan and Mohamed El-Hawary (Dalhousie University, Canada) 7301  V4-2363

5. Agent-Based Resource Management in Hybrid Wireless Networks
Rajeev Babbar (University of Calgary, Canada), Abraham O. Fapojuwo (University of Calgary, Canada) and Behrouz H. Far (University of Calgary, Canada) 6050  V3-1297

6. Enhanced Polling Scheme with IEEE 802.11a WLAN
Taekon Kim (Samsung Electronics Co.), Chang Yeul and Chil-Youl Ynag (Samsung Eletronics Co.) 5205  V1-0217

Break : 10:10 – 10:30

7. Session-based Service Discovery in Peer-to-Peer Communications
Ramiro Liscano (University of Ottawa, Canada), Allan Jost and Anand Dersingh (Dalhousie University, Canada) and Hao Hu (Intel China Ltd., China) 6119  V3-1477

8. Average Degradation Degree Fair Adaptation Algorithm in Wireless Network with Mobile Hosts
Floriano De Rango (University of Calabria, Italy), G. Aloi (University of Calabria, Italy) and S. Marano (University of Calabria, Italy) 6974  V4-2303

9. A Proposed Protocol for Internet Key Exchange (IKE)
Hossein Haddad (Isfahan University of Technology, Iran), Mehdi Berenjkoub (Isfahan University of Technology, Iran) and Saeed Gazor (Queens University, Canada) 6706  V4-2017

10. An Integrated Scheduling and Buffer Management Scheme for Packet-Switched Routers
Ren-Jie Pi Beijing (Beijing University of Posts and Telecom., China), Junde Song and Meina Song (Beijing University of Posts and Telecom., China) 5646  V1-0489

11. Multipath Traffic Distribution in MPLS Network
Zenghua Zhao (Tianjin University, China) and Yantai Shu (Tianjin University, China) 5785  V2-0661
Final Program

Session (Oral) WM4: Biomedical Image Analysis
Wednesday, May 5, 2004
TIME: 8:10 – 12:10
CHAIR: Dr. A. Alder, University of Ottawa
Room: Hennipen South

1. Evaluation of Hierarchical Elastic Medical Image Registration Method
Xiaoyan Xu (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6047 V3-1289

2. Images Can be Regenerated from Quantized Biometric Match Score Data
Andy Adler (University of Ottawa, Canada) 5599 V1-0469

3. Lossy Compression of DNA Microarray Images
Naser Faramarzpour (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) and M. Jamal Deen (McMaster University, Canada) 5820 V2-0735

4. Compression of 3D Facial Data
In-Su Park (McMaster University, Canada), Shahram Shirani (McMaster University, Canada) and David W. Capson (McMaster University, Canada) 5992 V2-1151

5. Neural Network Texture Segmentation in Equine Leg Ultrasound images
Qi Huang (University of Guelph, Canada) and Robert D. Dony (University of Guelph, Canada) 6040 V3-1269

6. Gait Analysis and Recognition using Angular Transforms
Nikolaos V. Boulgouris (University of Toronto, Canada), Konstantinos N. Plataniotis (University of Toronto, Canada) and Dimitrios Hatzinakos (University of Toronto, Canada) 6057 V3-1317

Break : 10:10 – 10:30

7. A Fuzzy Classifier Approach to Assessing the Progression of Adolescent Idiopathic Scoliosis from Radiographic Indicators
Peter O. Ajemba (University of Alberta, Canada), Lino Ramirez (University of Alberta, Canada), Nelson G. Durdle (University of Alberta, Canada), Doug L. Hill (Glenrose Rehabilitation Hospital, Canada) and V. J. Raso (Glenrose Rehabilitation Hospital, Canada) 6115 V3-1467

8. Semi Real-time algorithm for Posture Estimation of the Human Face using a 3-D Reference Picture
Daisuke Takahashi (Kanto Gakuin University, Japan) and Noriyoshi Okamoto (Kanto Gakuin University, Japan) 5891 V2-0927

9. ECG Signal Compression by Using Multiquadric Interpolation
Pond Boonyaves (Chulalongkorn University, Thailand), Porntip Paisalsing (Chulalongkorn University, Thailand), Pian Tatorang (National Institute of Metrodoloy, Thailand) and Somchai Jitapunkul (Chulalongkorn University, Thailand) 5896 V2-0947

10. Modeling Human Body Effects for Indoor Radio Channel using UTD
Mohammad Ghaddar (University of Quebec, Canada), Larbi Talbi (University of Quebec - Outaouais, Canada), Tayeb A. Denidni (University of Quebec, Canada), Alain Charbonneau (Université du Québec en Outaouais, Canada) 6074 V3-1357
Session (Oral) WM5:  RF Circuits

Wednesday, May 5, 2004  TIME:  8:10 – 12:10

CHAIR:  Dr. A. B. Kouki, Ecole de Technologie Superieure  Room: Auditorium

1. Design Issues of Direct Conversion Radio Frequency Receivers in SiGe Technology
Roghoyeh Salmeh (University of Calgary, Canada), Brent J. Maundy and Ronald H. Johnston (University of Calgary, Canada)  4315  V1-0061

2. Design and Realization of a RF Transceiver for Marine Identification Systems
Mohamad El-Asmar (Ecole de Technologie Superieure, Canada) and Ammar B. Kouki (Ecole de Technologie Superieure, Canada)  5664  V1-0535

3. Physics-Based Analysis of Variable RF MEMs Capacitors
Kousseil Ben Ahmed (Ecole de technologie superieure, Canada), Ammar B. Kouki (Ecole de Technologie Superieure, Canada) and A. Khebir (Ecole de Technologie Superieure, Canada)  5823  V2-0739

4. Low-Voltage, Low-Power and Low Phase Noise 2.4 GHz VCO for Medical Wireless Telemetry
Ahmed Fakhr (McMaster University, Canada), M. Jamal Deen and Hubert deBruin (McMaster University, Canada)  6058  V3-1321

5. A Low-power 5 Mb/s turbo Decoder for Third-Generation Wireless Terminals
Ibrahim Al-Mohandes and Mohamed Elmasry (University of Waterloo, Canada)  7482  V4-2387

6. A Bipolar Voltage Variable Attenuator for Radio Frequency Applications
You Zheng and Carlos E. Saavedra (Queen’s University, Canada)  4813  V1-0095

Break:  10:10 – 10:30

7. Low-Power and High-Speed Digital Correlator for Radio Astronomy
Christoph Spuhler (University of Rochester, USA), Yi Chang (University of Rochester, USA), Martin Margala (University of Rochester, USA), Brent Carlson (Herzberg Institute of Astrophysics, Canada) and Peter Dewdney (Herzberg Institute of Astrophysics, Canada)  6191  V3-1633

8. An Adaptive Algorithm for Efficient Electromagnetic Field Calculations
Mina Ayatollahi (University of Waterloo, Canada) and Safieddin Safavi-Naeini (University of Waterloo, Canada)  6947  V4-2251

9. Low-Voltage and Low-Power 1.9GHz Body-Input Downconversion Mixer
Nabeel Jafferali (McMaster University, Canada) and M. Jamal Deen (McMaster University, Canada)  6093  V3-1413

10. A Clock Frequency Doubler using a Passive Integrator and Emitter-Coupled Comparator Circuit
Carlos E. Saavedra and Yang Zhang (Queen’s University, Canada)  5042  V1-0137

11. A Flexible Digital Platform for Real-Time Control of RF Components with Application to MIMO Channel Emulation
Pierre-Paul Carpentier (École de technologie superieure, Canada), Ammar Kouki and Claude Thibeault (Ecole de Technologie Superieure, Canada)  5793  V2-0665
1. A New Rate Adaptation Framework for MPEG-4 FGS Video over IP
Colin Huang (Ryerson University, Canada) and Ling Guan (Ryerson University, Canada)
6154 V3-1563

2. Choice of Threshold of the Huber-Markov Prior in MAP Based Video Resolution Enhancement
Hu He (State University of New York at Buffalo, USA) and Lisimachos P. Kondi (State University of New York at Buffalo, USA) 5841 V2-0801

3. Algorithms for Estimating Information Distance with Application to Bioinformatics and Linguistics
Alexei Kalchenko (Wilfrid Laurier University, Canada) 6949 V4-2255

4. FFT Filter Bank based Majority and Summation CFAR Detectors: A Comparative Study
Sichun Wang and Robert Inkol ((Defence Research and Development Canada) 5944 V2-1039

5. Probability Distribution of Speech Signal Envelope
Saeed Gazor (Queen's University) and Reza Rashidi Far (Queen's University) 6964 V4-2267

6. A Relationship between the Structures of the Radix-2 DIT FHT and Complex-Valued FFT Algorithms
Saad Bouguezel (Concordia University, Canada), M.O. Ahmad (Concordia University, Canada) and M.N.S Swamy (Concordia University, Canada) 5975 V2-1111

Break: 10:10 – 10:30

7. Multifractal Characterization for Classification of Network Traffic
Robert L. Barry (University of Manitoba, Canada) and Witold Kinsner (University of Manitoba, Canada) 6112 V3-1453

8. A Comparative Study of FFT-Summation and Polyphase-FFT CFAR Detectors
Robert Inkol and Sichun Wang (Defence Research and Development Canada) 6000 V2-1175

9. A Switching Constant False Alarm Rate Technique for High Frequency Surface Wave Radar
Xiaoli Lu (University of Victoria, Canada), Jian Wang (Raytheon Canada Ltd., Canada), Reza Dizaji (Raytheon Canada Ltd., Canada), Zhen Ding (Raytheon Canada Ltd., Canada) and A. M. Ponsford (Raytheon Canada Ltd., Canada) 6811 V4-2081

10. Analysis of Clutter Distribution in Bistatic High Frequency Surface Wave Radar
Jian Wang (Raytheon Canada Ltd., Canada), Reza Dizaji (Raytheon Canada Ltd., Canada) and A. M. Ponsford (Raytheon Canada Ltd., Canada) 6052 V3-1301

11. A Novel Parameter Update Procedure based on Minimizing the Empirical Probability of Error
Haosheng Zhou (University of Winnipeg, Canada) 5112 V1-0157
Session (Oral) WM7: Information and Intelligent Systems
Wednesday, May 5, 2004  TIME: 8:10 – 12:10
CHAIR: Dr. M. Maheswaran, McGill University  Room: Haida

1. Evaluation of Request Distribution Schemes for Web-Server Clusters
Ramandeep Bhinder (TRLabs, Canada), Muthucumaru Maheswaran (McGill University, Canada) and Jeff Diamond (TRLabs, Canada)  6171  V3-1609

2. Knowledge Representation and Processing in Intelligent Software Measurement System (ISMS)
Tong Chen (University of Calgary, Canada) and Behrouz Homayoun Far (University of Calgary, Canada)  5578  V1-0443

3. Decision Support and Automation for Malfunction Handling and Optimization in a Feedback Production Control System for Complex Production Facilities
Clemens Martin (University of Ontario Institute of Technology, Canada)  6157  V3-1571

4. Information Estimations of Complexity Structures
Alexander Shaydurov (McGill University, Canada)  5345  V1-0351

5. An Application of Decision Support to Network Intrusion Detection
Hongyu Yang (Tianjin University, China), Lixia Xie (University of China, China) and Jizhou Sun (Tianjin University, China)  6299  V3-1703

6. Ontology-Based Intelligent Information Retrieval System
Wenjie Li (Tianjin University, China), Zhiyong Feng (Tianjin University, China), Yong Li (Tianjin University, China) and Zhoujun Xu (Tianjin University, China)  5441  V1-0373

Break : 10:10 – 10:30

7. Specification of Design Patterns using Real-Time Process Algebra (RTPA)
Vu Nguyen-Cong (Nong Lam University, Vietnam) and Yingxu Wang (University of Calgary, Canada)  6142  V3-1545

8. Application de L’Adresse Physique Rapide A L’Architecture de Visualisation dans les Systemes A Microprocesseur
Mountassar Maamoun (Blida University) and Boualem Laichi (Departement dInformatique, USTHB)  6662  V4-1981

9. Design of Dual Port RAM for Parallel Volume Rendering System
Xiaotu Li (Tianjin University, China), Jizhou Sun and Weifang Nie (Tianjin University, China) and Yurong Wang (Capital University of Economics and Business, China)  5155

10. Considerations for the Development of Large Scale Mobile Network Management System
Man Yi and Shang Jing (Beijing University of Posts and Telecommunications, China), Song Junde and Song Mei (Beijing University of Posts and Telecommunications, China)  5984  V2-1139
1. Damping Power System Oscillations Using a Genetic Algorithm Based Unified Power Flow Controller
Sherif O. Faried and Amr A. Eldamaty (University of Saskatchewan, Canada) 4349 V1-006

2. The Effect of Capacity Gaming on the Cost of System Reliability
Donald McGillis and Ian Fichtenbaum (McGill University, Canada), Markian Michailuk and Francisco Galiana (McGill University, Canada) 5889 V2-0917

Chad Abbey and Geza Joos (McGill University, Canada) 5954 V2-1059

4. Islanding Protection Evaluation of Inverter-based Grid-connected Hybrid Renewable Energy System
Mamadou Lamine Doumbia (Université de Quebec à Trois-Rivieres, Canada), Kodjo Agbossou and Tapan K. Bose (Université de Quebec à Trois-Rivieres, Canada) 5966 V2-1081

5. Parameterize Pre-Compensator Design for Static Synchronous Series Compensator (SSSC)
Jafar Ghaisari (Isfahan University of Technology, Iran) and Alireza R. Bakhshai (Queen's University, Canada) 6174 V3-1617

6. Investigation of Self-Excited Induction Generators for Wind Turbine Applications
Mohamed Orabi (Kyushu University, Japan), Mohamed Z. Youssef (Queen's University, Canada) and P. K. Jain (Queen's University, Canada) 6544 V4-1853

Break : 10:10 – 10:30

7. Energy Optimization in Rapid Flow Variation Systems
Kaushik Bhattacharjee (Senior Member, IEEE), Alok Goyal (TERI), Suman Mazumdar (Flakt India), Manish Kumar (IIT Kharagpur, India) 6521 V4-1835

8. Domain of Stability of AC/DC Power Systems
Nilkamal Fernandopulle (Independent Electric Market Operator) and Robert T.H. Alden (Bob Alden Technologies, Canada) 5546 V1-0433

Mohamed Z. Youssef (Queen's University, Canada), Praveen K. Jain (Queen's University, Canada), Elsayed Abdelaleem Mohamed (Ain Shams University, Egypt) and Mohamed Orabi (Kyushu University, Japan) 4284 V1-0055

10. Relationship of Chaos and Small Signal Stability Region
Jia Hongjie (Tianjin University, China), Yu Yixin (Tianjin University, China), Zhang Pei (EPRI, USA) Yu Xiaodan (Tianjin University, China), Huang Chunhua (Tianjin University, China) 4627 V1-0073

11. Effect of the Fuel Cell on Distribution System Stability
Francisco Jurado and Manuel Valverde (University of Jaen), Jose Carpio (U. Nacional de Education) 4263 V1-004

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Schedule of Events Page 55 of 72
Session (Oral) WM9: Control Systems I

Wednesday, May 5, 2004

CHAIR: T.B.A.

Session (Oral) WM9: Control Systems I

1. Model Predictive Control for Bilateral Teleoperation Systems with Time Delays
   Jie Sheng (University of Illinois at Urbana-Champaign, USA) and Mark W. Spong
   (University of Illinois at Urbana-Champaign, USA) 6555  V4-1877

2. On Identification of Non-linear Two-Channel Hammerstein Systems
   Mirek Pawlak (University of Manitoba, Canada) and Ruixiang Song (University of
   Manitoba, Canada) 5282  V1-0289

3. A new Z-domain Continued Fraction Expansion and its use in the Generation of
   Stable Transfer Functions
   Venkatanarayana Ramachandran (Concordia University, Canada), Ling Luo (Concordia
   University, Canada) and C.S. Gargour (University of Quebec, Canada) 5300  V1-0307

4. Effects of Control Systems Time Delay on The Performance of Direct Harmonics
   Elimination
   Jenny Zheng Zhou (Manitoba HVDC Research Centre, Canada), Athula Rajapakse and
   Aniruddha M. Gole (University of Manitoba, Canada) 5725  V1-0609

5. Performance of a Non Linear Controller Based IPMSM Drive
   Jason Lau (Lakehead University, Canada) and Mohammad N. Uddin (Lakehead
   University, Canada) 5828  V2-0755

6. Control Schemes for Stabilization of Force-Reflecting Teleoperators with
   Communication Delay
   Ilia G. Polushin (Lakehead University, Canada), Abdelhamid Tayebi (Lakehead
   University, Canada) and Horacio J. Marquez (University of Alberta, Canada) 6874  V4-2163

Break : 10:10 – 10:30

7. An Algorithm for Locating Microseismic Events
   Brian L. F. Daku (University of Saskatchewan, Canada), J. Eric Salt (University of
   Saskatchewan, Canada), Li Sha (University of Saskatchewan, Canada) 6978  V4-2311

8. Using Model Predictive Control for Real-Time Control over the Internet
   Samer Mansour and Bill Robertson (Dalhousie University, Canada), Bill Phillips
   (Dalhousie University, Canada) and Guy Kember (Dalhousie University, Canada) 5855

9. An Integrated Robotic Laser Range Sensing System for Automatic Mapping of
   Wide Workspaces
   Phillip Curtis (University of Ottawa, Canada) and Pierre Payeur (University of Ottawa,
   Canada) 5983  V2-1135

10. An Architectural Framework for a Distributed Process Control Information
    System
    Varanon Uraikul (University of Regina, Canada), Christine Chan (University of Regina,
    Canada) and Paitoon Tontiwachwuthikul (University of Regina, Canada) 6079  V3-1375

11. Mobile Robot Position Determination Using Data from Gyro and Odometry
    Farouk Azizi (Purdue University Calumet, USA) and Nasser Houshangi (Purdue
    University Calumet, USA) 5814  V2-0719
1. Development and Interfacing of a Generic Switched Reluctance Motor Model for an EMTP  
Athula D. Rajapakse (University of Manitoba, Canada), Aniruddha M. Gole (University of Manitoba, Canada) and Dharshana Muthumani (Manitoba HVDC Research Center, Canada) 5225  V1-0237

2. Experimental Methods for Measuring the q-Axis Saturation Characteristics of Synchronous Machines  
Narayan C. Kar (University of Windsor, Canada) and Ahmed M. El-Serafi (University of Saskatchewan, Canada) 5519  V1-0425

3. Performance Analysis of a Reluctance Synchronous Motor Under Abnormal Operating Condition  
Prabhakar Neti (University of Victoria, Canada) and Subhasis Nandi (University of Victoria, Canada) 5694  V1-0587

4. Power Transformer Critical Diagnostics for Reliability and Life Extension  
Muhammad Arshad (American University of Sharjah) and Syed M. Islam (Curtin University of Technology, Australia) 5734  V2-0625

5. Saturation in Synchronous Generators During Unbalanced Faults  
Kwok-Wai Louie (Manitoba HVDC Research Centre, Canada) and Jose R. Marti (University of British Columbia, Canada) 5853  V2-0819

6. Finite Element Analysis of Shaft Eddy Currents in High Speed Asynchronous Machines  
Erich Schmidt (Vienna University of Technology, Austria) 5925  V2-1009

Break : 10:10 – 10:30

7. Alternative Network Element Sets  
J. J. Narraway (University of New Brunswick, Canada) 9001  V4-2405

8. Flux Estimation of Induction Machines with the Linear Parameter-Varying System Identification Method  
Juntao Pan (University of Calgary, Canada), David Westwick and Ed Nowicki (University of Calgary, Canada) 6910  V4-2213

9. Impedance Characterization of a Six-Phase Synchronous Generator-Rectifier System Using Average-Value Model  
Juri Jatskevich and Tarek Aboul-Seoud (University of British Columbia, Canada) 6929  V4-2231

10. Performance Analysis of a 4-Switch, 3-Phase Inverter Based Cost Effective IPM Motor Drives  
Mohammad Nasir Uddin (Lakehead University, Canada), Tawfik S. Radwan (Memorial University of Newfoundland, Canada) and M. A. Rahman (Memorial University of Newfoundland, Canada) 4639  V1-0085
Wednesday Lunch
Sponsored by GENNUM Corporation

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Wednesday, May 5, 2004
TIME: 13:00 – 15:20

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Room: Ontario

1. Pixel Architectures for Digital X-Ray Mammography in Crystalline Silicon Technology
Mohammad Hadi Izadi and Karim S. Karim (Simon Frase University, Canada) 6320 V3-1719

2. Symbolically Defined Empirical Large-Signal Model for HBTs Compared to the Gummel-Poon Model
Ammar Issaoun (École de Technologie Supérieure, Canada), A.B. Kouki (École de Technologie Supérieure, Canada) and F.M. Ghannouchi (École Polytechnique, Canada) 4203 V1-0031

3. Reducing the Temperature Effect on a CMOS Transconductance and its Application in g-C Filters
Yuelin Cui and R. Raut (Concordia University, Canada) 5446 V1-0389

4. Single-Ended DSL Line Tester
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5. Custom Column Readout Circuitry to Extend the Dynamic Range of a Si:H Current Mediated Pixel Amplifiers for Large Area Diagnostic X-Ray Imaging Applications
Tony Ottaviani and Karim S. Karim (Simon Fraser University, Canada) 6316 V3-1711

6. Sources of Linearity Degradation in LINC Transmitters for Hybrid and Outphasing Combiners
Ahmed Birafane (Ecole de Technologie Supérieure, Canada) and Ammar B. Kouki (Ecole de Technologie Supérieure, Canada) 5668 V1-0547

7. A Multi Frequency Fresnel Lens using a Perforated Dielectric
Irfan Kadri (Carleton University, Canada), Mike Britton (Ellistar Sensor Systems), Langis Roy (Carleton University, Canada) 5888 V2-0913
1. **Blind Decision Feedback Equalizer based on High Order MCMA**  
Idir Chahed (Ecole de Technologie Supérieure, Canada), Jean Belzile (Ecole de Technologie Supérieure, Canada) and Ammar B. Kouki (Ecole de Technologie Supérieure, Canada) 6843 V4-2111

2. **A Postprocessor for an Interval-Based M-ary Detection System that Monitors Long-Duration Input**  
Erin R. Budd (University of New Brunswick, Canada) and Maryhelen Stevenson (University of New Brunswick, Canada) 5936 V2-1025

3. **Characteristic function approach for higher order crossings with application for speed estimation**  
Lian Zhao (Ryerson University, Canada) 7543 V4-2397

4. **Approximation of Phase and Envelope Distribution of Gaussian Random Amplitude-Modulated Signals**  
Stephen H. Sung (Calian Ltd., Canada) and Yifeng Zhou (Defence R&D Canada) 6372

5. **Performance Analysis of Certain Scheduling Disciplines in Hardware**  
Padmini Vellore (Memorial University of Newfoundland, Canada) and R. Venkatesan, (Memorial University of Newfoundland, Canada) 5813 V2-0715

6. **Packet Loss Probability for DiffServ over Heterogeneous MPLS Multicast Networks: A Simulation Study**  
Abdullah AlWehaibi (Concordia University, Canada), Michel Kadoch (Ecole de technologie superieure, Canada) and Ahmed ElHakeem (Concordia University, Canada) 6909 V4-2209

7. **A New Method in Blind Estimation of Fast Time-Varying Channels Based on Subspace Method**  
AmirReza Momen (Iran Telecommunication Research Center [TRC], Iran), Saeed Masajedian (Iran Telecommunication Research Center [ITRC], Iran), Yasin Miar (Iran Telecommunication Research Center [ITRC], Iran) and Jahangir Dadkhah Chime (Iran Telecommunication Research Center [ITRC], Iran) 6627 V4-1957
1. Robot Path Planning with Multiresolution Probabilistic Representations: A Comparative Study
Martin Soucy (University of Ottawa, Canada) and Pierre Payeur (University of Ottawa, Canada) 5980 V2-1127

2. Microscopic Dynamics of Cytobots
Blake W. Podaima (TRLabs, Canada) and Thuraiappah Vaseeharan (TRLabs, Canada), Richard Gordon (TRLabs, Canada) 6137 V3-1527

3. Advanced Robotics Mechatronics System: Emerging Technologies for Interplanetary Robotics
George Bailak (MD Robotics Limited, Canada), Bruno Rubinger (MD Robotics Limited, Canada), Moksoon Jang (University of Toronto, Canada) and Francis Dawson (University of Toronto, Canada) 6716 V4-2025

4. An Improvement of Self-localization for Omnidirectional Mobile Robots using a New Odometry Sensor and Omnidirectional Vision
Hamid Reza Moballegh (University of Ottawa, Isfahan University of Technology, Canada), Peiman Amini and Yousof Pakzad (University of Ottawa, Isfahan University of Technology, Canada) 7011 V4-2337

5. A New Efficient Control Algorithm Using Potential Field: Extension to Robot Path Tracking
Gong Cheng (Dalhousie University, Canada), Jason Gu (Dalhousie University, Canada), Tao Bai (Dalhousie University, Canada) and Osama Majdalawieh (Dalhousie University, Canada) 6725 V4-2035

6. Numerical Simulation of a Multipowered Onboard Drive Train
Raphael Roy (Université de Moncton, Canada) and Jamel Ghouili (Université de Moncton, Canada) 6801 V4-2069

7. SDI-12 Based Turbidity Measurement System with Field Calibration Capability
Jose Pereira (ESTSetúbal), Octavian Postolache (Institute of Telecommunication - IST), Pedro Girão (Instituto de Telecomunicações) and Helena Ramos (Instituto de Telecomunicações) 6661 V4-1975
1. On the Debugging of a High Clutter Tracking System  
Zhen Ding (Raytheon Canada Ltd, Canada) 6833  V4-2103

2. A Decision Support System for Oil Production Prediction  
Hanh H. Nguyen (University of Regina, Canada), Christine W. Chan (University of Regina, Canada) and Micheal Monea (Petroleum Technology Research Center, Canada) 6086  V3-1397

3. Agent-based Resource Management for Smart Robotic Sensors  
Abderrahmane Assal (University of Ottawa, Canada) and Voicu Groza (University of Ottawa, Canada) 6931  V4-2239

4. Genetic Algorithm for Dynamic Path Planning  
Ahmed Elshamli (University of Guelph, Canada), Hussein Abdullah (University of Guelph, Canada), Shawki Areibi (University of Guelph, Canada) 5797  V2-0677

5. Tension Control Loop Using a Linear Actuator Based on the Energetic Macroscopic Representation  
Christian Thiffault (Université du Québec à Trois-Rivières, Canada), Pierre Sicard (Université du Québec à Trois-Rivières, Canada) and Alain Bouscayrol (Université des Sciences et Technologies de Lille, France) 6728  V4-2041

Mohamed Shehata (University of Calgary, Canada), Li Jiang (University of Calgary, Canada) and Armin Eberlein (American University of Sharjah, UAE) 6401  V3-1753

7. A Web-Based 3D Virtual Robot Remote Control System  
Xiaoli Yang (Lakehead University, Canada), Dorina C. Petriu (Carleton University, Canada), Thom E. Whalen (CRC, Canada), Emil M. Petriu (University of Ottawa) 5898
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CHAIR: Dr. R. Alden, McMaster University        Room: Cree

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Tawfik S. Radwan and Essam M. Rashad (Memorial University of Newfoundland, Canada), Mohammad Nasir Uddin (Lakehead University, Canada) and M. A. Rahman (Memorial University of Newfoundland, Canada) 6371  V3-1731

2. A Comparison between Nonlinear Controllers for Induction Motors based on Different Reference Frames
Azeddine Kaddouri (Université de Moncton, Canada), Jamel Ghouili (Université de Moncton, Canada) and Mohsen Ghribi (Université de Moncton, Canada) 6538  V4-1849

3. Intelligent modeling and control of a pneumatic motor
Rapelang Marumo (University of Sheffield, UK) and O. M. Tokhi (University of Sheffield, UK) 5996  V2-1163

4. Adaptive Fuzzy Variable Structure Control of Induction Motors
Mohammed S. Agamy (Queen's University, Canada), Hasan A. Yousef, (Alexandria University, Egypt) and Omar A. Sebakhy (Alexandria University, Egypt) 4676  V1-0089

5. Real Time Flux and Torque Estimator for Induction Machines
Moussa Zerbo (Université du Québec à Trois-Rivières, Canada), Abdellfattah Barazzouk (Université du Québec à Trois-Rivières, Canada) and Pierre Sicard (Université du Québec à Trois-Rivières, Canada) 6872  V4-2159

6. High Frequency Characterization of a Via Hole Discontinuity
N. Hassaine (Harris Corporation, Canada), L. Villeneuve and F. Concilio (Harris Corporation, Canada) 5824  V2-0743
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CHAIR: Dr. K. Plataniotis,
University of Toronto

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1. Design of a Multi-Agent System for Autonomous Database Administration
Sunitha Ramanujam (University of Western Ontario, Canada) and Miriam A. M. Capretz
(University of Western Ontario, Canada) 5997  V2-1167

2. A Collective View and Methodologies for Software Agents' Interaction
Behrouz Homayoun Far (University of Calgary, Canada) 6033  V3-1249

3. An Agent-Based Shopping System
Luigi Benedicenti (University of Regina), Xuguang Chen (University of Regina),
Xiaoran Cao (University of Regina) and Raman Paranjape (University of Regina) 5805  V2-0703

4. A Framework for Repurposing Multimedia Content
Mohammod Shamim Hossain (University of Ottawa, Canada), Md. Abdur Rahman and
Abdulmotaleb El-Saddik (University of Ottawa, Canada) 5904  V2-0971

5. Towards a Multi-domain Semantic Web Application
M. Anwar Hossain (University of Ottawa, Canada), Abdulmotaleb El-Saddik and Pierre
Levy (University of Ottawa, Canada) 6024  V3-1237

6. Extreme Programming in Global Software Development
Yang Xiaohu (Zhejiang University, China), Xu Bin and He Zhijun, (Zhejiang University,
China), Srinivasa R. Maddineni (SSGM/Securities Trading IT, USA) 6528  V4-1845

7. Self-management model based on Multiagent and Worm Techniques
Ya-Ping Zhang (Tianjin University, China), Jizhou Sun (IBM Lab Center, Tianjin
University, China) and Jian Bo Ma (Tianjin University, China) 5491  V1-0397
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CHAIR: Dr. M. Yagoub, University of Ottawa
Room: Auditorium

1. An Adaptive Time Step Control Algorithm for Nonlinear Time Domain Envelope Transient
Carlos E. Christoffersen (Lakehead University, Canada) and Jude Alexander (Lakehead University, Canada) 5876    V2-0883

2. Configurable Coprocessing with an ARC-PCI Board
William Bishop (University of Waterloo, Canada), David Grant (University of Waterloo, Canada) and Wayne Loucks (University of Waterloo, Canada) 5918    V2-0987

3. A Temperature dependent Large-Signal Drain Current Neural Model for the Dual-Gate MESFET
Mohammad Abdeen (University of Ottawa, Canada) and M. C. E. Yagoub (University of Ottawa, Canada) 6076    V3-1367

4. A Physics-Based Analytical Model of a GaN/AlGaN HEMT Incorporating Spontaneous and Piezoelectric Polarization
Jonathan C. Sippel (Rochester Institute of Technology, USA), Syed Islam (Rochester Institute of Technology, USA) and Sankha S. Mukherjee (Rochester Institute of Technology, USA) 6088    V3-1401

5. Power MOSFET Macromodel Accounting for Saturation and Quasi Saturation Effect
Wael El Manhawy (Mentor Graphics) and Wael Fikry (Mentor Graphics) 6527    V4-1839

6. A Tool Converting Finite State Machine to VHDL
Amr T. Abdel-Hamid (Concordia University, Canada), Mohamed Zaki (Concordia University, Canada) and Sofiene Tahar (Concordia University, Canada) 6582    V4-1907

7. A CMOS Elliptic Low-Pass Switched Capacitor Ladder Filter for Video Communication Using Bilinear Implementation
Mohammad Moghaddam Tabrizi (University of Tehran, Iran), Amir Amirabadi (University of Tehran, Iran), Mohammad Sharifkhani (University of Waterloo, Canada) and Omid Shoaei (University of Tehran, Canada) 6328    V3-1723
1. The Design of an Architecture for Software Agents on Mobile Platforms
Koragod Saenchai (Khon Kaen University), Luigi Benedicenti (University of Regina, Canada) and Raman Paranjape (University of Regina, Canada) 6083  V3-1389

2. Havana: A Mobile Agent Platform for Seamless Integration with the Existing Web Infrastructure
Qusay H. Mahmoud (University of Guelph, Canada) and Leslie Yu (University of Guelph, Canada) 6035  V3-1257

3. Modeling the Customer Behavior in the Mobile Payment on a non-Connected Vending Machine Platform
Seyed Bahram Zahir Azami (Hivva Technologies, Canada), Nathalie Torabii (Hivva Technologies, Canada), Mohammad Tanabian (Hivva Technologies, Canada) 5852  V2-0815

4. Reduced Size Cross-Coupled Resonator Bandpass Filters for Wireless Communication Systems
F. Ghanem (INRS-EMT, Canada), T. A. Denidni (INRS-EMT, Canada), G. Y. Delisle (University of Ottawa) 6127  V3-1499

5. TCP Performance Evaluation Over Wireless Networks
Xiaojing He (Tianjin University, China), Linying Xu (Tianjin University, China), Manyun Liu (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5914  V2-0983

6. A Distributed Agent Scheme in Mobile IP Networks
Xuejun Sun (Tianjin University, China), Shengli Li (Tianjin University, China), Tao Liu (Tianjin University, China) 5740  V2-0637

7. Research on the SLA-based Service Management in Mobile Communication Network
Song Mei (Beijing University of Posts and Telecommunications, China), Chang Qian (Beijing University of Posts and Telecommunications, China), Song Rongbing (Beijing University of Posts and Telecommunications, China) 5927  V2-1017
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Wednesday, May 5, 2004       TIME: 13:00 – 15:20

CHAIR: Dr. J. Deen, McMaster University
Room: Oneida

1. A Low-Voltage Current Mode Instrumentation Amplifier Designed in a 0.18-micron CMOS Technology
Evan L. Douglas (University of New Brunswick, Canada), Dennis F. Lovely (University of New Brunswick, Canada) and David M. Luke (University of New Brunswick, Canada)
6417   V3-1777

2. A 12-bit, 50 MS/s SiGe BiCMOS Sample-and-Hold Residue Amplifier
Siddharth Devarajan (Rensselaer Polytechnic Institute, USA), Ronald J. Gutmann and Kenneth Rose (Rensselaer Polytechnic Institute, USA)
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3. New CML Latch Structure for High Speed Prescaler Design
Muhammad Usama (Carleton University, Canada) and Tad Kwasniewski (Carleton University, Canada)
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4. Generation of Analog and Digital Transfer Functions having a Monotonic Magnitude Response
Venkatanarayana Ramachandran (Concordia University, Canada), C. S. Gargour (University of Quebec, Canada) and Ravi P. Ramachandran (Rowan University, USA)
5311   V1-0319

5. Design of a High-Speed (255,239) RS Decoder using 0.18uM CMOS
Anh Dinh and Daniel Teng (University of Saskatchewan, Canada)
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6. Synchronous Sequential Circuits Design Using Evolutionary Algorithms
Ahmed T. Soliman (Ain Shams University, Egypt) and Hazem M. Abbas (Mentor Graphics Egypt, Egypt)
6696   V4-2013

7. A 10 b, 40 Msample/s, 25 mW Pipeline Analog to Digital Converter
Amir Amirabadi (University of Tehran, Iran), Mohammad Moghaddam Tabrizi (University of Tehran, Iran), M. Sharifi Khani (University of Waterloo, Canada) and Omid Shoaei (University of Tehran, Iran)
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1. Adaptive Image Restoration Using a Perception Based Error Measurement
Stuart Perry (Canon Information Systems Research Australia, Australia), Pedram Varjavandi (Ryerson University, Canada) and Ling Guan (Ryerson University, Canada) 6163 V3-1585

2. Re-positioning Effects on a Full Torso Imaging System for the Assessment of Scoliosis
Peter O. Ajemba (University of Alberta, Canada), Nelson G. Durdle (University of Alberta, Canada), Doug L. Hill (Glenrose Rehabilitation Hospital, Canada) and V. J. Raso (Glenrose Rehabilitation Hospital, Canada) 6122 V3-1483

3. Volumetric Display of Magnetic Resonance Images using Scopira and OpenGL
Satish B. S. Pallapotu (University of Manitoba, Canada) and Nicolino J. Pizzi (Institute for Biodiagnostics, National Research Council, Canada) 6560 V4-1885

4. An Effective Feature Extraction Algorithm for The Recognition of Facial Expressions
Satoshi Nakamizo (Kogakuin University, Japan), Ken-ichi Haneda (Kogakuin University, Japan) and Osamu Nakamura (Kogakuin University, Japan) 5920 V2-0993

5. Rate-Distortion Optimization of Spatial Filters for Motion-Compensated Video Coding
Vincent Fong (Queen's University, Canada) and Wai-Yip Chan (Queen's University, Canada) 5892 V2-0931

6. Tone Recognition of Thai Continuous Speech Using Fujisaki's Model
Nutthee Ngarmchatetanarom and Ekkarit Maneenoi (Chulalongkorn University, Thailand), Widhyakorn Asdornwised and Somchai Jitapunkul (Chulalongkorn University, Thailand) 5089 V1-0149

7. New Compactly Supported Scaling And Wavelet Functions Derived From Gegenbauer Polynomials
Luciana R. Soares (Federal University of Pernambuco, Brazil), Helio M. Oliveira (Federal University of Pernambuco, Brazil) and Renato J. de Sobral Cintra (Federal University of Pernambuco, Brazil) 7026 V4-2347
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Wednesday, May 5, 2004  TIME: 13:30 – 14:30

CHAIR:  Dr. K. Plataniotis  Mr. P. Westlind
Room:  Oakes Foyer

1. A Novel Reputation System Facilitating Cooperation in Pervasive Wireless Environment
Huiping Sun (Beijing University of Posts and Telecommunications, China)
Junde Song (Beijing University of Posts and Telecommunications, China) 5897  V2-0951

2. Pitch and MFCC Dependent GMM Models for Speaker Identification Systems
Hassan Ezzaidi (Université du Québec à Chicoutimi, Canada) and Jean Rouat (Université de Sherbrooke, Canada) 4257  V1-0043

3. Cramer-Rao Bound for Channel Estimation Errors in Space-time Coding and Modulation
Guihua Kang (Zhejiang University, China), Zhaoyang Zhang (Zhejiang University, China), Peiliang Qiu (Zhejiang University, China) 6395  V3-1745

4. Research on the Session Control Technologies in 3GPP UMTS Networks
Zhou Wenan (Beijing University of Post and Telecom, Beijing, P.R. China), Wang Daoyi (CITIC communications project management Co Ltd.) and Song Junde (Beijing University of Post and Telecom, Beijing, P.R. China) 6687  V4-2005

5. Supporting Traditional IP Applications in Active Networks
Zhigang Jin (Tianjin University, China), Yongmei Luo (Tianjin University, China), Yantai Shu (Tianjin University, China) and Zhifeng Fu (Tianjin University, China) 4989

6. Collaborative Learning System based on Wireless Mobile Equipments
Zhaopeng Meng (Tianjin University, China), Jianjun Chu (Tianjin University, China) and Lianfang Zhang (Tianjin University, China) 5619  V1-0481

7. Three Routes to Chaos in Power Systems
Jia Hongjie (Tianjin University, China), Yu Yixin (Tianjin University, China), Yu Xiaodan (Tianjin University, China), Huang Chunhua (Tianjin University, China) Zhang Pei (EPRI, USA) 4629  V1-0079

8. Microprocessor-Based Phase Tracking System for Digital Power Metering
Wu Jiekang (Guangxi University, Zhejiang, China), Long Jun (Guangxi University, China) Liang Ying (Guangxi University, China), J.X. Wang (Guangxi University, China) 3858  V1-0019
Yuanyuan Gao (Tianjin University, China), Zhiyong Feng (Tianjin University, China) and Guozheng Rao (Tianjin University, China) 5059  V1-0141

10. A Hybrid and Hierarchical NIDS Paradigm Utilizing Naive Bayes Classifier
Qin Zhao (Tianjin University, China), Jizhou Sun (Tianjin University, China) and Song Zhang (Tianjin University, China) 5064  V1-0145

11. Survey of Collaborative Environments
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Yacouba Coulibaly (INRS-EMT, Canada), Tayeb A. Denidni (INRS-EMT, Canada), Larbi Talbi (University of Quebec, Canada), Abdel R. Sebak (Concordia University, Canada) 6141  V3-1541

13. Accurate Ray-Tracing Technique for Wall Reflections Modeling
Yongming Huang (University of Quebec - Outaouais, Canada), Larbi Talbi (University of Quebec, Canada), Tayeb A. Denidni (INRS - EMT, Canada) 5794  V2-0669

Francisco Jurado (University of Jaen), Manuel Valverde (University of Jaen), Jose Carpio (Universidad Nacional de Educacion a Distancia) 5151  V1-017

15. A Static Power Reduction Technique for Ternary Content Addressable Memories
Nitin Mohan (University of Waterloo, Canada), Manoj Sachdev (University of Waterloo, Canada) 5812  V2-0711

16. Dual-wavelength Passively Mode-locked Fiber ring Laser
Zhichao Deng (University of Ottawa, Canada), Jianping Yao (University of Ottawa, Canada) 5861  V2-0849

17. Développement dune méthode MPPT pour les systèmes photovoltaïques
Tahar Tafticht (Université de Québec à Trois-Rivières, Canada), Kodjo Agbossou (Universite du Quebec à Trois-Rivieres, Canada) 5979  V2-1123

18. Caractérisation des Effets de Couplage dans les Circuits Intégrés Micro-Ondes
Mustapha C. E. Yagoub (University of Ottawa, Canada), Prasun Sharma (University of Ottawa, Canada) 6002  V2-1179

19. Respiratory Sounds Classification using Gaussian Mixture Models
Mohammed Bahoura (Université du Québec à Rimouski, Canada), Charles Pelletier (Université du Québec à Rimouski, Canada) 6054  V3-1309

20. The Knowledge Modeling System and its Application
Christine W. Chan (University of Regina, Canada) 6073  V3-1353
21. A New Scheme for Securing Mobile Agents
Behzad Malek (University of Ottawa, Canada), Ali Miri (University of Ottawa, Canada) 6295 V3-1699

22. Channel Conductivity of High Frequency Field Effect Transistor Designed on Nitride Semiconductors
Dimiter Alexandrov (Lakehead University, Canada), Christina Gallagher (Lakehead University, Canada) 6484 V3-1815

Xiaomei Fu (Tianjin University, China), Jufeng Dai (Tianjin University, China), Jinlong Yu (Tianjin University, China), Enze Yang (Tianjin University, China) 6494 V3-1819

Assim Sagahyroon (American University, UAE), Maddu Karunarartne (V-Cube Corp - Fremont, USA) 6515 V4-1831

25. A Improved Space-Time Trellis Coded OFDM Scheme for Frequency Selective Fading Channels
Yanan Li and Yunshang Ge (Tianjin University, China), Jinlong Yu and Jufeng Dai (Tianjin University, China), Xiaomei Fu and Enze Yang (Tianjin University, China) 6637 V4-1967

26. BMP: an Efficient and Scalable Multicast Protocol
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27. On-Line Tracking and Mitigation of Power System Harmonics Using ADALINE-Based Active Power Filter System
R. El Shatshat, M. Kazerani and M.M.A. Salama (University of Waterloo, Canada) 6850

28. A Bayesian-Networks-Based Approach for Managing Uncertainty in Location-Tracking Applications
Wayden Abdelsalam (University of Waterloo, Canada), Yasser Ebrahim (Wilfrid Laurier University, Canada) 6904 V4-2205

29. An Advanced Library Format for ASIC Design
Maddu Karunarartne (V-Cube Technology Corp., USA), Assim Sagahyroon (American University, UAE) A. Weerakkody (V-Cube Technology Corp., USA) 6511 V3-1827

30. High-Level Symbolic Simulation Using Integer Equations
Amir Masoud Gharehbaghi (Sharif University of Technology), Shaahin Hessabi (Sharif University of Technology) and Mohammad Reza Eshghi (Sharif University of Technology) 6025 V3-1241

31. Comparing a Novel QOS Routing Algorithm to Standard Pruning Techniques used in QOS Routing Algorithms
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